Figure 1:
% of human sera with neutralising capacity for human adenovirus (n=100)

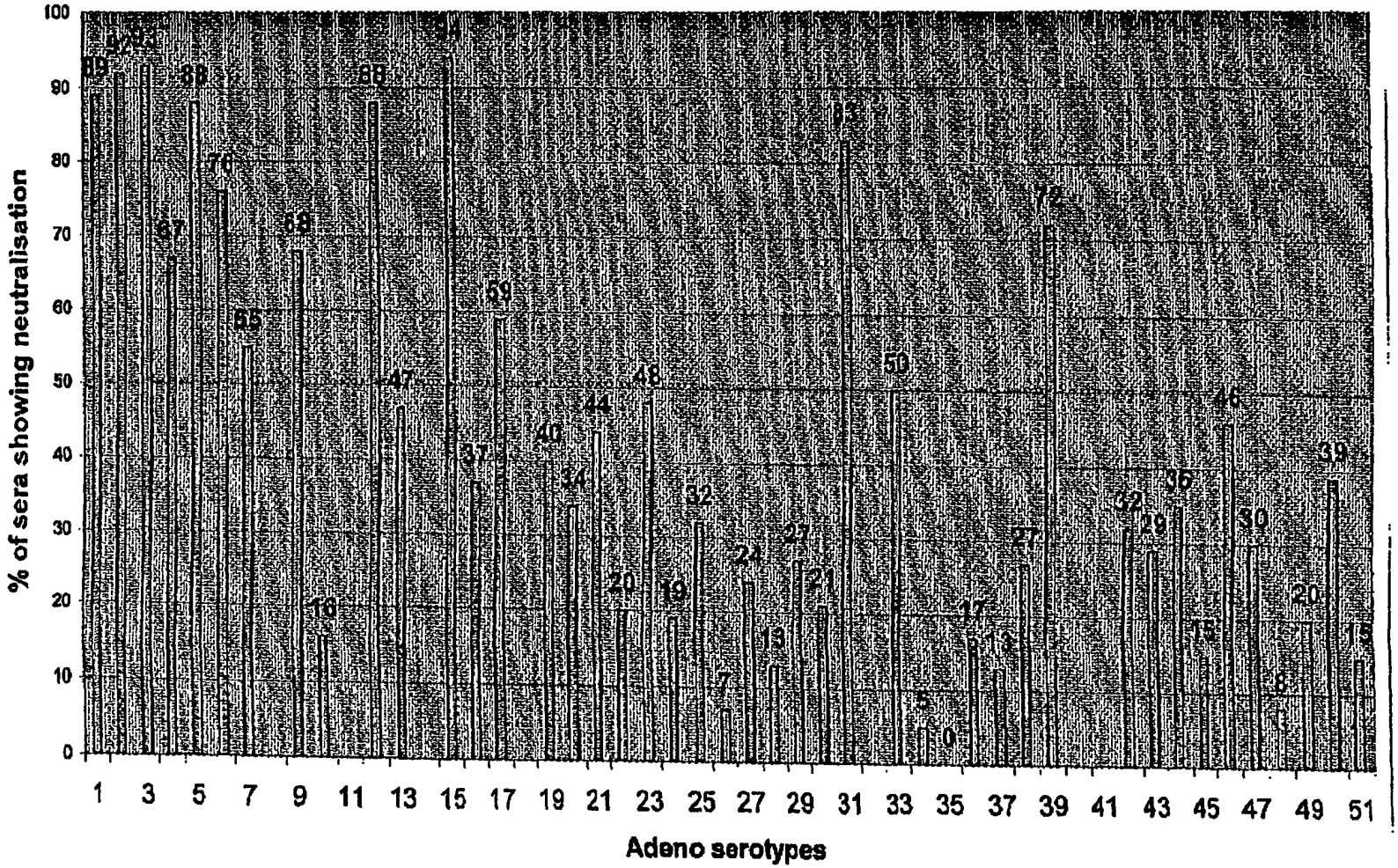

Figure 2

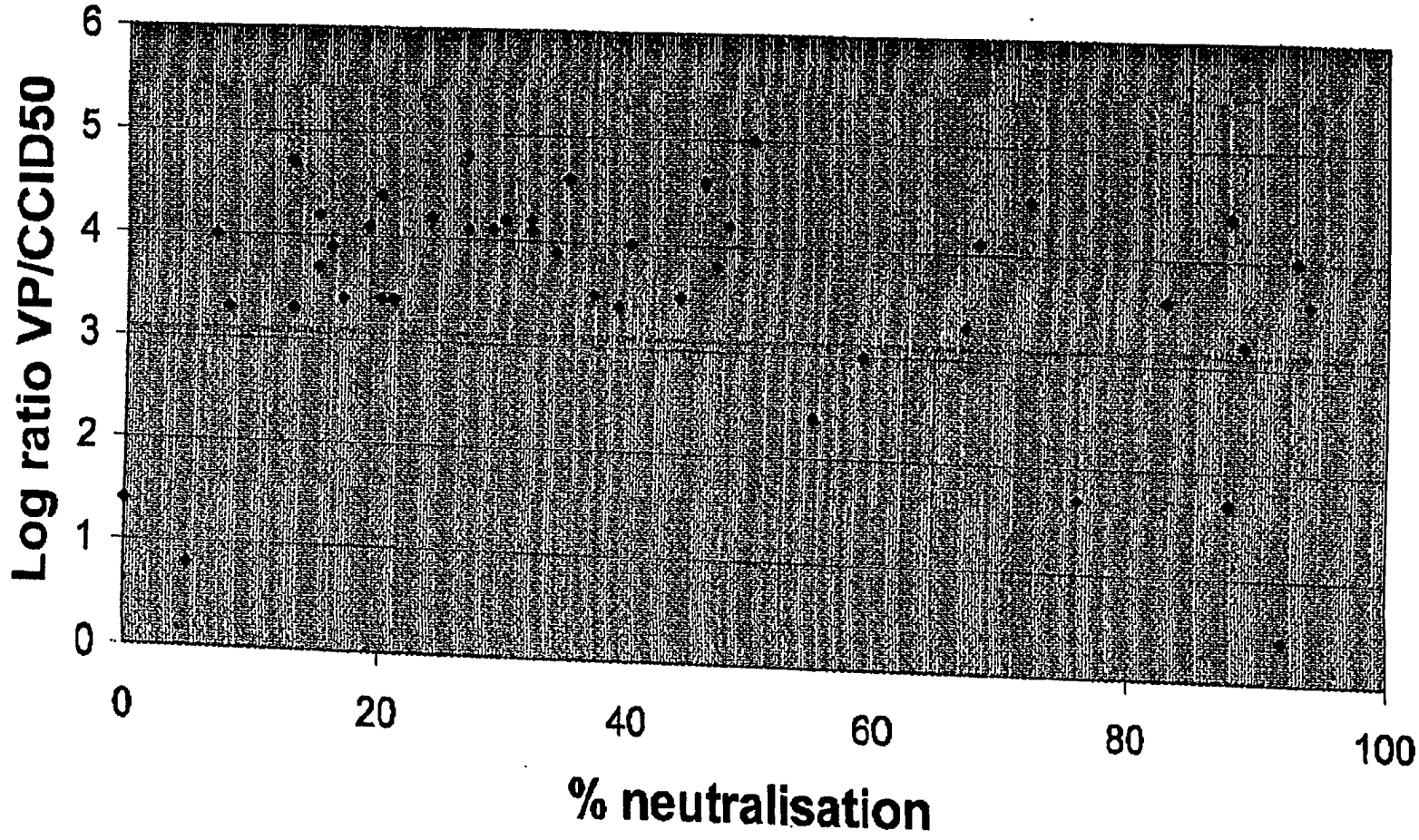

Figure 3

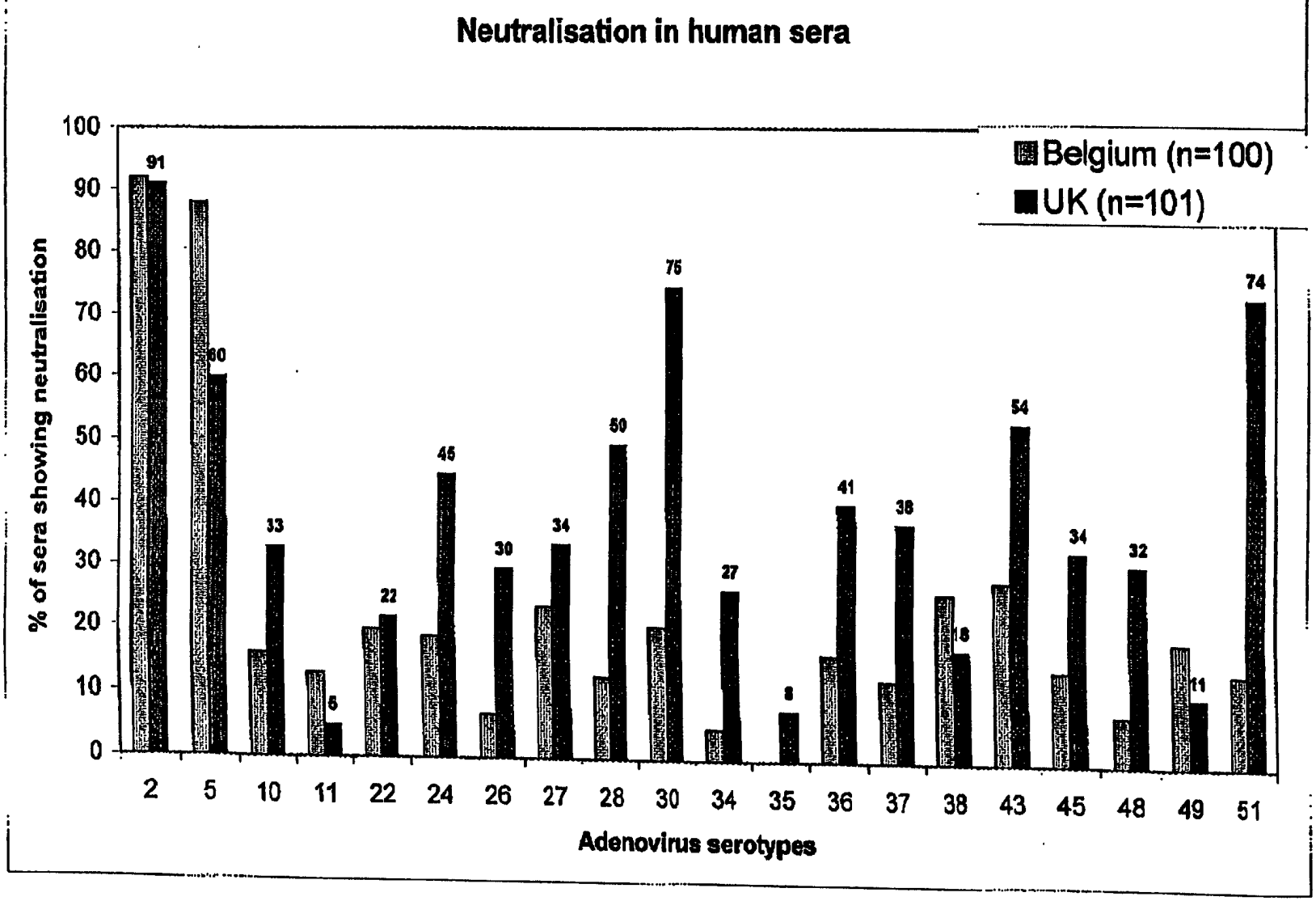
Neutralisation in human sera
Belgium (n=100)
UK (n=101)
% of sera showing neutralisation
100
90
80
70
60
50
40
30
20
10
0
91
88
60
33
6
22
45
30
34
50
75
27
8
41
38
18
54
34
32
11
74
2
5
10
11
22
24
26
27
28
30
34
35
36
37
38
43
45
48
49
51
Adenovirus serotypes

Figure 4

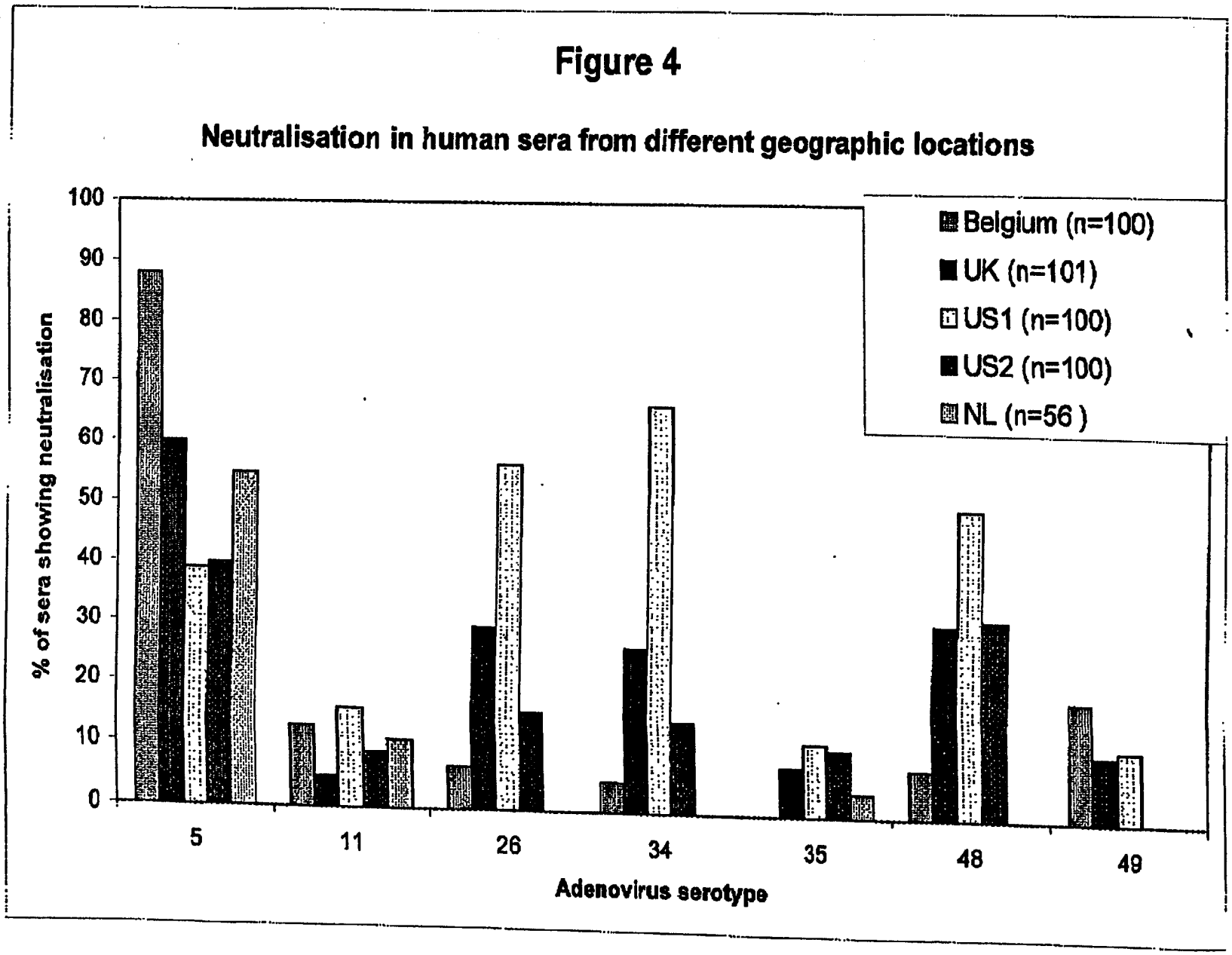

Figure 5: Total sequence of Ad35.

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28001 GATGGGAATG CAGGTCCGTT GAAATTACAC ACAATAACAA AACCTGGAAC AATACCTTAT CCACCACATG
28071 GGAGCCAGGA GTTCCCGAGT GGTACACTGT CTCTGTCCGA GGTCCTGACG GTTCCATCCG CATTAGTAAC
28141 AACACTTTCA TTTTTTCTGA AATGTGCGAT CTGGCCATGT TCATGAGCAA ACAGTATTCT CTATGGCCTC
28211 CTAGCAAGGA CAACATCGTA ACGTTCTCCA TTGCTTATTG CTTGTGCGCT TGCCTTCTTA CTGCTTTACT
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28281 GTGCGTATGC ATACACCTGC TTGTAACCAC TCGCATCAAA AACGCCAATA ACAAAGAAAA AATGCCTTAA
28351 CCTCTTTCTG TTTACAGACA TGGCTTCTCT TACATCTCTC ATATTTGTCA GCATTGTCAC TGCCGCTCAC
28421 GGACAAACAG TCGTCTCTAT CCCACTAGGA CATAATTACA CTCTCATAGG ACCCCCAATC ACTTCACAGG
28491 TCATCTGGAC CAAACTGGGA AGCGTTGATT ACTTTGATAT AATCTGTAAC AAAACAAAAC CAATAATAGT
28561 AACTTGCAAC ATACAAAATC TTACATTGAT TAATGTTAGC AAAGTTTACA GCGGTTACTA TTATGGTTAT
28631 GACAGATACA GTAGTCAATA TAGAAATTAC TTGGTTCGTG TTACCCAGTT GAAAACCACG AAAATGCCAA
28701 ATATGGCAAA GATTCGATCC GATGACAATT CTCTAGAAAC TTTTACATCT CCCACCACAC CCGACGAAAA
28771 AAACATCCCA GATTCAATGA TTGCAATTGT TGCAGCGGTG GCAGTGGTGA TGGCACTAAT AATAATATGC
28841 ATGCTTTTAT ATGCTTGTCG CTACAAAAAG TTTCATCCTA AAAAACAAGA TCTCCTACTA AGGCTTAACA
28911 TTTAATTTCT TTTTATACAG CCATGGTTTC CACTACCACA TTCCTTATGC TTACTAGTCT CGCAACTCTG
28981 ACTTCTGCTC GCTCACACCT CACTGTAACT ATAGGCTCAA ACTGCACACT AAAAGGACCT CAAGGTGGTC
29051 ATGTCTTTTG GTGGAGAATA TATGACAATG GATGGTTTAC AAAACCATGT GACCAACCTG GTAGATTTTT
29121 CTGCAACGGC AGAGACCTAA CCATTATCAA CGTGACAGCA AATGACAAAG GCTTCTATTA TGGAACCGAC
29191 TATAAAAGTA GTTTAGATTA TAACATTATT GTACTGCCAT CTACCACTCC AGCACCCCGC ACAACTACTT
29261 TCTCTAGCAG CAGTGTCGCT AACAATACAA TTTCCAATCC AACCTTTGCC GCGCTTTTAA AACGCACTGT
29331 GAATAATTCT ACAACTTCAC ATACAACAAT TTCCACTTCA ACAATCAGCA TCATCGCTGC AGTGACAATT
29401 GGAATATCTA TTCTTGTTTT TACCATAACC TACTACGCCT GCTGCTATAG AAAAGACAAA CATAAAGGTG
29471 ATCCATTACT TAGATTTGAT ATTTAATTTG TTCTTTTTTT TTATTTACAG TATGGTGAAC ACCAATCATG
29541 GTACCTAGAA ATTTCTTCTT CACCATACTC ATCTGTGCTT TTAATGTTTG CGCTACTTTC ACAGCAGTAG
29611 CCACAGCAAC CCCAGACTGT ATAGGAGCAT TTGCTTCCTA TGCACTTTTT GCTTTTGTTA CTTGCATCTG
29681 CGTATGTAGC ATAGTCTGCC TGGTTATTAA TTTTTTCCAA CTTCTAGACT GGATCCTTGT GCGAATTGCC
29751 TACCTGCGCC ACCATCCCGA ATACCGCAAC CAAAATATCG CGGCACTTCT TAGACTCATC TAAAACCATG
29821 CAGGCTATAC TACCAATATT TTTGCTTCTA TTGCTTCCCT ACGCTGTCTC AACCCCAGCT GCCTATAGTA
29891 CTCCACCAGA ACACCTTAGA AAATGCAAAT TCCAACAACC GTGGTCATTT CTTGCTTGCT ATCGAGAAAA
29961 ATCAGAAATC CCCCCAAATT TAATAATGAT TGCTGGAATA ATTAATATAA TCTGTTGCAC CATAATTTCA
30031 TTTTTGATAT ACCCCCTATT TGATTTTGGC TGGAATGCTC CCAATGCACA TGATCATCCA CAAGACCCAG
30101 AGGAACACAT TCCCCCACAA AACATGCAAC ATCCAATAGC GCTAATAGAT TACGAAAGTG AACCACAACC
30171 CCCACTACTC CCTGCTATTA GTTACTTCAA CCTAACCGGC GGAGATGACT GAAACACTCA CCACCTCCAA
30241 TTCCGCCGAG GATCTGCTCG ATATGGACGG CCGCGTCTCA GAACAACGAC TTGCCCAACT ACGCATCCGC
30311 CAGCAGCAGG AACGCGTGGC CAAAGAGCTC AGAGATGTCA TCCAAATTCA CCAATGCAAA AAAGGCATAT
30381 TCTGTTTGGT AAAACAAGCC AAGATATCCT ACGAGATCAC CGCTACTGAC CATCGCCTCT CTTACGAACT
30451 TGGCCCCCAA CGACAAAAAT TTACCTGCAT GGTGGGAATC AACCCCATAG TTATCACCCA ACAAAGTGGA
30521 GATACTAAGG GTTGCATTCA CTGCTCCTGC GATTCCATCG AGTGCACCTA CACCCTGCTG AAGACCCTAT
30591 GCGGCCTAAG AGACCTGCTA CCAATGAATT AAAAAAAAAT GATTAATAAA AAATCACTTA CTTGAAATCA
30661 GCAATAAGGT CTCTGTTGAA ATTTTCTCCC AGCAGCACCT CACTTCCCTC TTCCCAACTC TGGTATTCTA
30731 AACCCCGTTC AGCGGCATAC TTTCTCCATA CTTTAAAGGG GATGTCAAAT TTTAGCTCCT CTCCTGTACC
30801 CACAATCTTC ATGTCTTTCT TCCCAGATGA CCAAGAGAGT CCGGCTCAGT GACTCCTTCA ACCCTGTCTA
30871 CCCCTATGAA GATGAAAGCA CCTCCCAACA CCCCTTTATA AACCCAGGGT TTATTTCCCC AAATGGCTTC
30941 ACACAAAGCC CAGACGGAGT TCTTACTTTA AAATGTTTAA CCCCACTAAC AACCACAGGC GGATCTCTAC
31011 AGCTAAAAGT GGGAGGGGGA CTTACAGTGG ATGACACTGA TGGTACCTTA CAAGAAAACA TACGTGCTAC
31081 AGCACCCATT ACTAAAAATA ATCACTCTGT AGAACTATCC ATTGGAAATG GATTAGAAAC TCAAAACAAT
31151 AAACTATGTG CCAAATTGGG AAATGGGTTA AAATTTAACA ACGGTGACAT TTGTATAAAG GATAGTATTA
31221 ACACCTTATG GACTGGAATA AACCCTCCAC CTAACTGTCA AATTGTGGAA AACACTAATA CAAATGATGG
31291 CAAACTTACT TTAGTATTAG TAAAAAATGG AGGGCTTGTT AATGGCTACG TGTCTCTAGT TGGTGTATCA
31361 GACACTGTGA ACCAAATGTT CACACAAAAG ACAGCAAACA TCCAATTAAG ATTATATTTT GACTCTTCTG
31431 GAAATCTATT AACTGAGGAA TCAGACTTAA AAATTCCACT TAAAAATAAA TCTTCTACAG CGACCAGTGA
31501 AACTGTAGCC AGCAGCAAAG CCTTTATGCC AAGTACTACA GCTTATCCCT TCAACACCAC TACTAGGGAT
31571 AGTGAAAACT ACATTCATGG AATATGTTAC TACATGACTA GTTATGATAG AAGTCTATTT CCCTTGAACA
31641 TTTCTATAAT GCTAAACAGC CGTATGATTT CTTCCAATGT TGCCTATGCC ATACAATTTG AATGGAATCT
31711 AAATGCAAGT GAATCTCCAG AAAGCAACAT AGCTACGCTG ACCACATCCC CCTTTTTCTT TTCTTACATT
31781 ACAGAAGACG ACAACTAAAA TAAAGTTTAA GTGTTTTTAT TTAAAATCAC AAAATTCGAG TAGTTATTTT
31851 GCCTCCACCT TCCCATTTGA CAGAATACAC CAATCTCTCC CCACGCACAG CTTTAAACAT TTGGATACCA
31921 TTAGAGATAG ACATTGTTTT AGATTCCACA TTCCAAACAG TTTCAGAGCG AGCCAATCTG GGGTCAGTGA
31991 TAGATAAAAA TCCATCGCGA TAGTCTTTTA AAGCGCTTTC ACAGTCCAAC TGCTGCGGAT GCGACTCCGG
32061 AGTTTGGATC ACGGTCATCT GGAAGAAGAA CGATGGGAAT CATAATCCGA AAACGGTATC GGACGATTGT
32131 GTCTCATCAA ACCCACAAGC AGCCGCTGTC TGCGTCGCTC CGTGCGACTG CTGTTTATGG GATCAGGGTC
32201 CACAGTTTCC TGAAGCATGA TTTTAATAGC CCTTAACATC AACTTTCTGG TGCGATGCGC GCAGCAACGC
32271 ATTCTGATTT CACTCAAATC TTTGCAGTAG GTACAACACA TTATTACAAT ATTGTTTAAT AAACCATAAT
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32341 TAAAAGCGCT CCAGCCAAAA CTCATATCTG ATATAATCGC CCCTGCATGA CCATCATACC AAAGTTTAAT
32411 ATAAATTAAA TGACGTTCCC TCAAAAACAC ACTACCCACA TACATGATCT CTTTTGGCAT GTGCATATTA
32481 ACAATCTGTC TGTACCATGG ACAACGTTGG TTAATCATGC AACCCAATAT AACCTTCCGG AACCACACTG
32551 CCAACACCGC TCCCCCAGCC ATGCATTGAA GTGAACCCTG CTGATTACAA TGACAATGAA GAACCCAATT
32621 CTCTCGACCG TGAATCACTT GAGAATGAAA AATATCTATA GTGGCACAAC ATAGACATAA ATGCATGCAT
32691 CTTCTCATAA TTTTTAACTC CTCAGGATTT AGAAACATAT CCCAGGGAAT AGGAAGCTCT TGCAGAACAG
32761 TAAAGCTGGC AGAACAAGGA AGACCACGAA CACAACTTAC ACTATGCATA GTCATAGTAT CACAATCTGG
32831 CAACAGCGGG TGGTCTTCAG TCATAGAAGC TCGGGTTTCA TTTTCCTCAC AACGTGGTAA CTGGGCTCTG
32901 GTGTAAGGGT GATGTCTGGC GCATGATGTC GAGCGTGCGC GCAACCTTGT CATAATGGAG TTGCTTCCTG
32971 ACATTCTCGT ATTTTGTATA GCAAAACGCG GCCCTGGCAG AACACACTCT TCTTCGCCTT CTATCCTGCC
33041 GCTTAGCGTG TTCCGTGTGA TAGTTCAAGT ACAGCCACAC TCTTAAGTTG GTCAAAAGAA TGCTGGCTTC
33111 AGTTGTAATC AAAACTCCAT CGCATCTAAT TGTTCTGAGG AAATCATCCA CGGTAGCATA TGCAAATCCC
33181 AACCAAGCAA TGCAACTGGA TTGCGTTTCA AGCAGGAGAG GAGAGGGAAG AGACGGAAGA ACCATGTTAA
33251 TTTTTATTCC AAACGATCTC GCAGTACTTC AAATTGTAGA TCGCGCAGAT GGCATCTCTC GCCCCCACTG
33321 TGTTGGTGAA AAAGCACAGC TAAATCAAAA GAAATGCGAT TTTCAAGGTG CTCAACGGTG GCTTCCAACA
33391 AAGCCTCCAC GCGCACATCC AAGAACAAAA GAATACCAAA AGAAGGAGCA TTTTCTAACT CCTCAATCAT
33461 CATATTACAT TCCTGCACCA TTCCCAGATA ATTTTCAGCT TTCCAGCCTT GAATTATTCG TGTCAGTTCT
33531 TGTGGTAAAT CCAATCCACA CATTACAAAC AGGTCCCGGA GGGCGCCCTC CACCACCATT CTTAAACACA
33601 CCCTCATAAT GACAAAATAT CTTGCTCCTG TGTCACCTGT AGCGAATTGA GAATGGCAAC ATCAATTGAC
33671 ATGCCCTTGG CTCTAAGTTC TTCTTTAAGT TCTAGTTGTA AAAACTCTCT CATATTATCA CCAAACTGCT
33741 TAGCCAGAAG CCCCCCGGGA ACAAGAGCAG GGGACGCTAC AGTGCAGTAC AAGCGCAGAC CTCCCCAATT
33811 GGCTCCAGCA AAAACAAGAT TGGAATAAGC ATATTGGGAA CCACCAGTAA TATCATCGAA GTTGCTGGAA
33881 ATATAATCAG GCAGAGTTTC TTGTAGAAAT TGAATAAAAG AAAAATTTGC CAAAAAAACA TTCAAAACCT
33951 CTGGGATGCA AATGCAATAG GTTACCGCGC TGCGCTCCAA CATTGTTAGT TTTGAATTAG TCTGCAAAAA
34021 TAAAAAAAAA ACAAGCGTCA TATCATAGTA GCCTGACGAA CAGGTGGATA AATCAGTCTT TCCATCACAA
34091 GACAAGCCAC AGGGTCTCCA GCTCGACCCT CGTAAAACCT GTCATCGTGA TTAAACAACA GCACCGAAAG
34161 TTCCTCGCGG TGACCAGCAT GAATAAGTCT TGATGAAGCA TACAATCCAG ACATGTTAGC ATCAGTTAAG
34231 GAGAAAAAAC AGCCAACATA GCCTTTGGGT ATAATTATGC TTAATCGTAA GTATAGCAAA GCCACCCCTC
34301 GCGGATACAA AGTAAAAGGC ACAGGAGAAT AAAAAATATA ATTATTTCTC TGCTGCTGTT TAGGCAACGT
34371 CGCCCCCGGT CCCTCTAAAT ACACATACAA AGCCTCATCA GCCATGGCTT ACCAGAGAAA GTACAGCGGG
34441 CACACAAACC ACAAGCTCTA AAGTCACTCT CCAACCTSTC CACAATATAT ATACACAAGC CCTAAACTGA
34511 CGTAATGGGA CTAAAGTGTA AAAAATCCCG CCAAACCCAA CACACACCCC GAAACTGCGT CACCAGGGAA
34581 AAGTACAGTT TCACTTCCGC AATCCCAACA AGCGTCACTT CCTCTTTCTC ACGGTACGTC ACATCCCATT
34651 AACTTACAAC GTCATTTTCC CACGGCCGCG CCGCCCCTTT TAACCGTTAA CCCCACAGCC AATCACCACA
34721 CGGCCCACAC TTTTTAAAAT CACCTCATTT ACATATTGGC ACCATTCCAT CTATAAGGTA TATTATTGAT
34791 GATG
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Figure 6

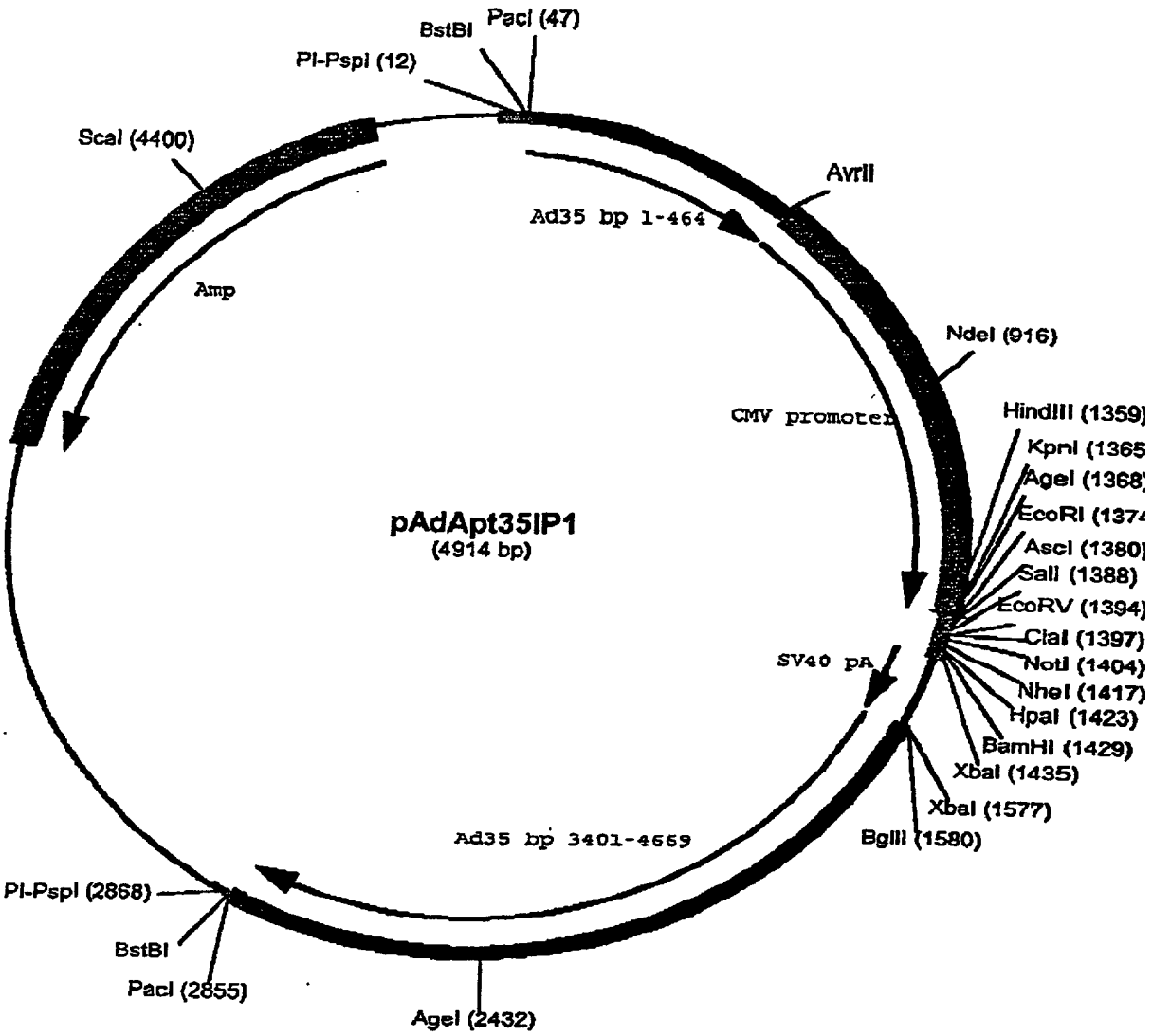

pAdApt35IP1
(4914 bp)
BstBI
PacI (47)
PI-PspI (12)
ScaI (4400)
AvrII
Ad35 bp 1-464
Amp
NdeI (916)
CMV promoter
HindIII (1359)
KpnI (1365
AgeI (1368
EcoRI (137
AscI (1380
SalI (1388)
EcoRV (1394
ClaI (1397)
NotI (1404)
NheI (1417)
HpaI (1423)
BamHI (1429)
XbaI (1435)
XbaI (1577)
BglII (1580)
SV40 pA
Ad35 bp 3401-4669
PI-PspI (2868)
BstBI
PacI (2855)
AgeI (2432)

FIG. 7: Construction of cosmid vector pWE.Ad35.pIX-rITR

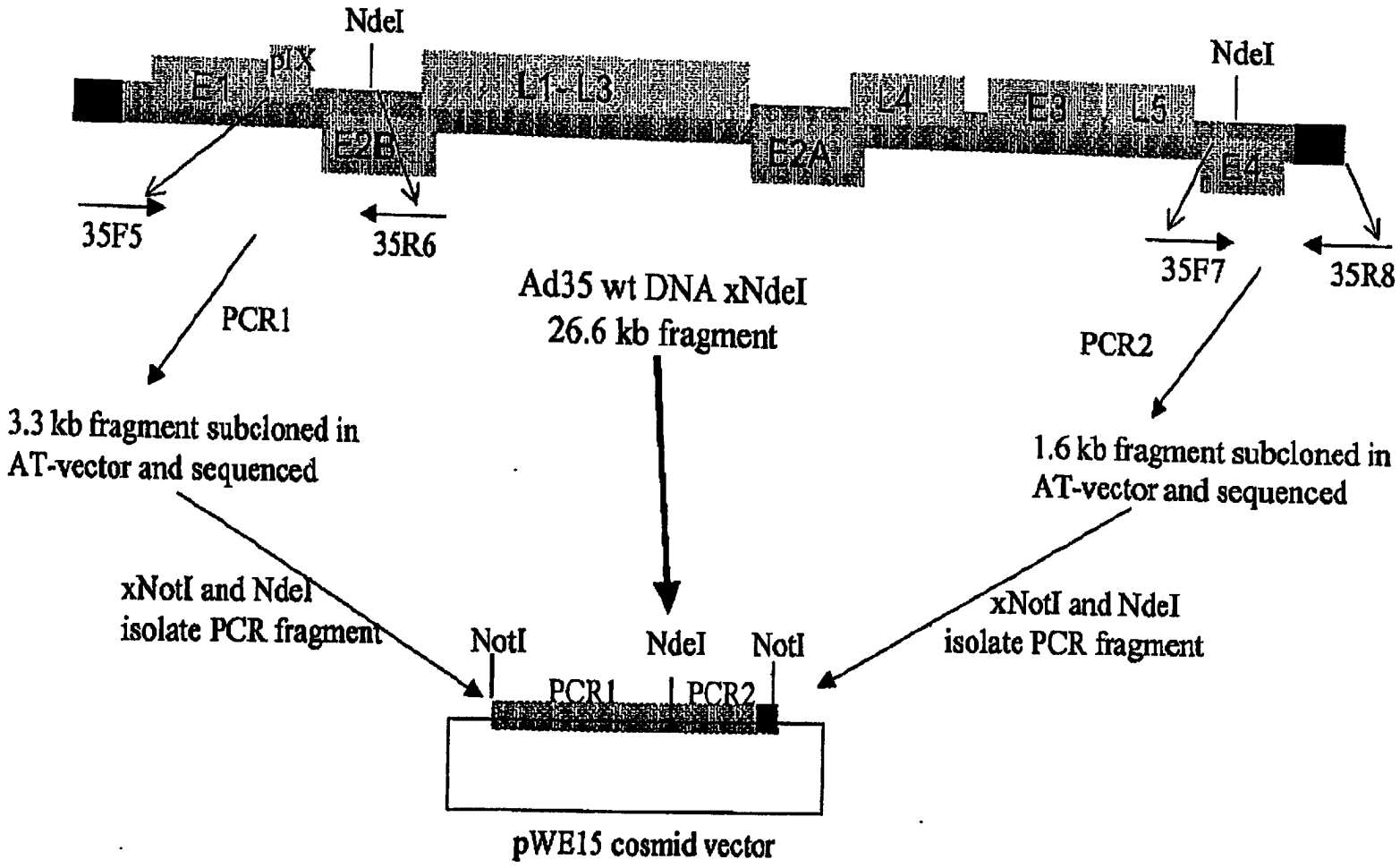


Figure 8

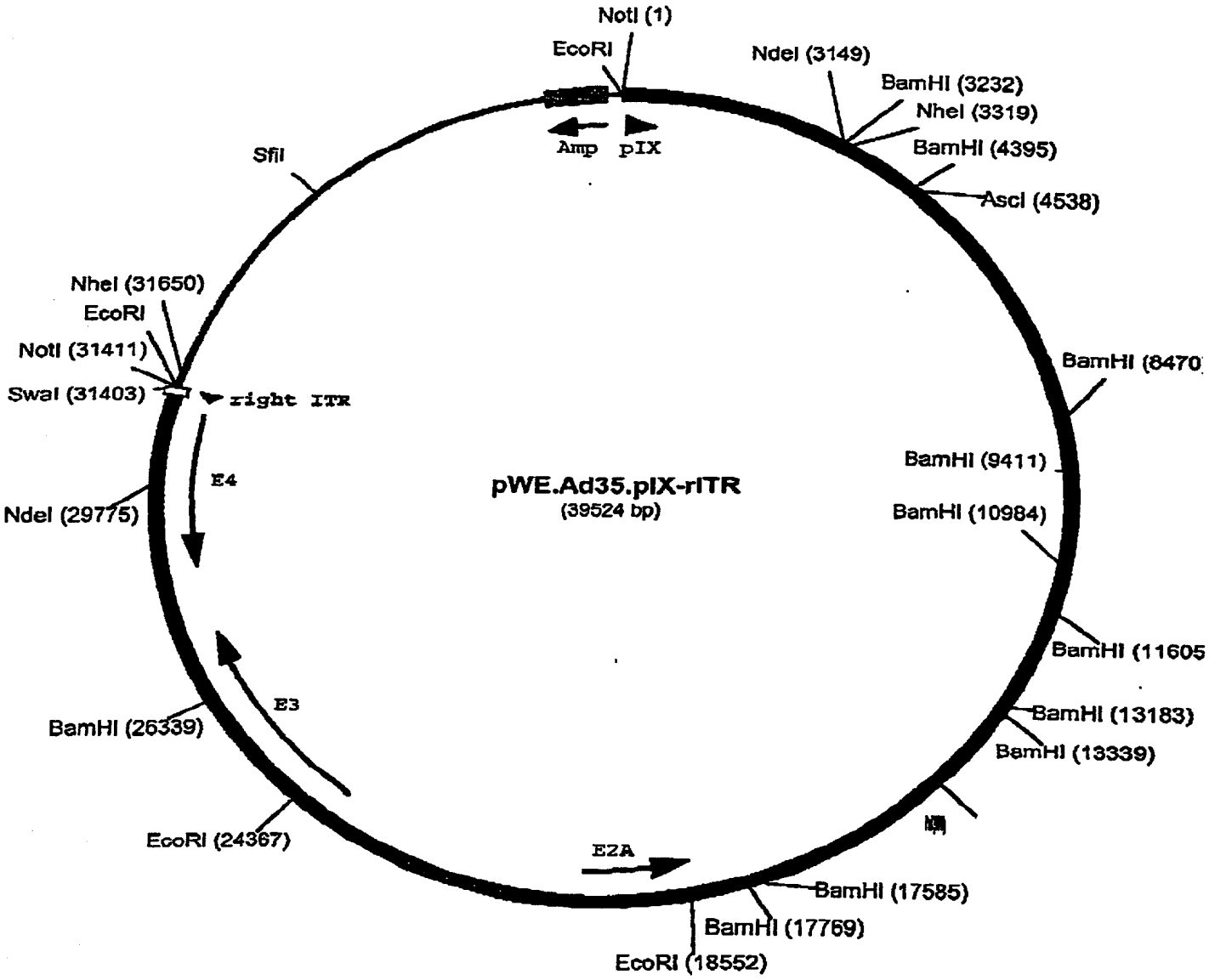

NotI (1)
EcoRI
NdeI (3149)
BamHI (3232)
NheI (3319)
BamHI (4395)
AscI (4538)
Amp
pIX
SfiI
NheI (31650)
EcoRI
NotI (31411)
SwaI (31403)
right ITR
BamHI (8470
BamHI (9411)
BamHI (10984)
BamHI (11605
BamHI (13183)
BamHI (13339)
E4
NdeI (29775)
pWE.Ad35.pIX-rITR
(39524 bp)
E3
BamHI (26339)
EcoRI (24367)
E2A
BamHI (17585)
BamHI (17769)
EcoRI (18552)

Figure 9

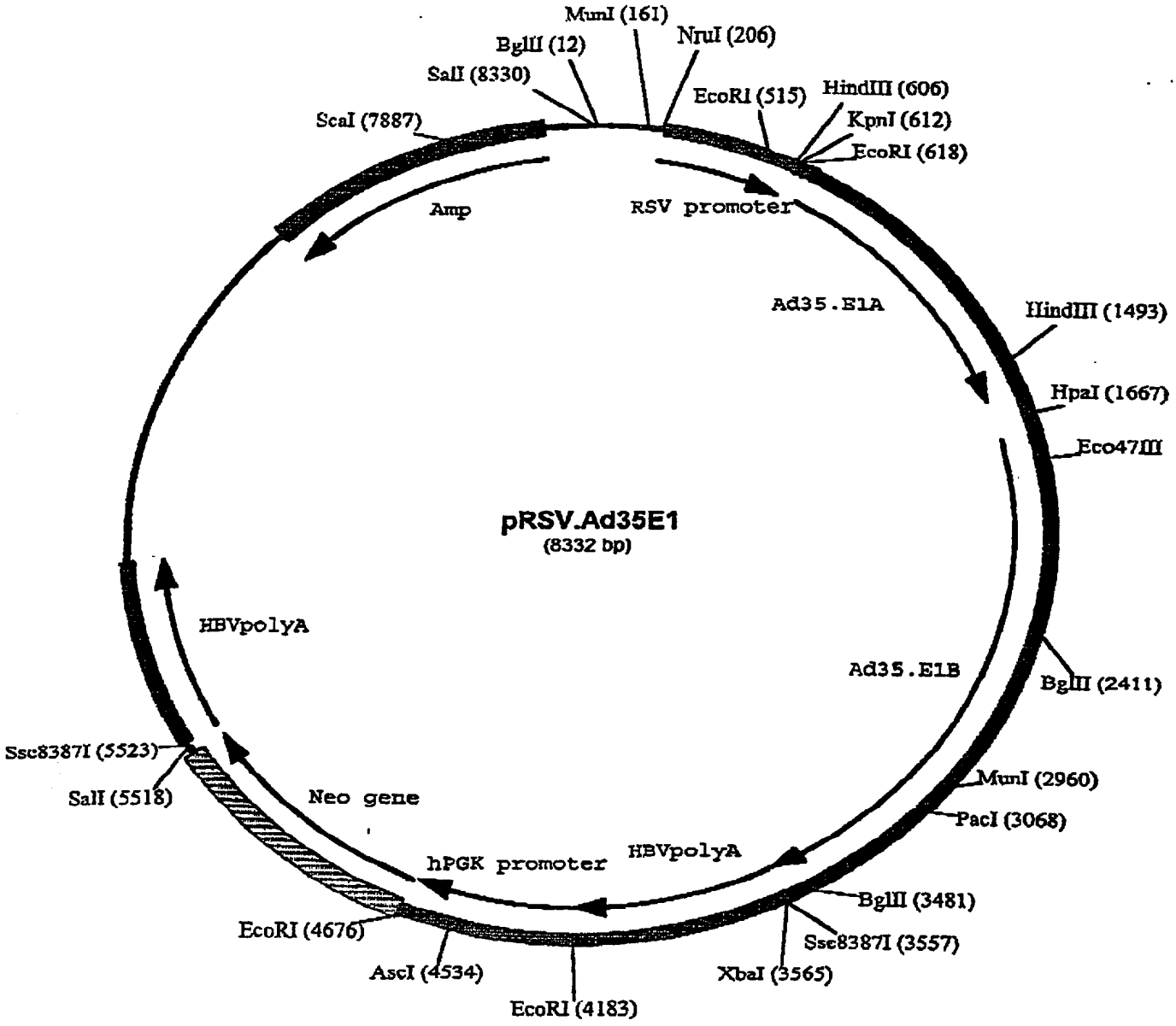

MunI (161)
NruI (206)
BglII (12)
SalI (8330)
EcoRI (515)
HindIII (606)
KpnI (612)
EcoRI (618)
ScaI (7887)
Amp
RSV promoter
Ad35.E1A
HindIII (1493)
HpaI (1667)
Eco47III
pRSV.Ad35E1
(8332 bp)
HBVpolyA
Ad35.E1B
BglII (2411)
Ssc8387I (5523)
SalI (5518)
Neo gene
MunI (2960)
PacI (3068)
hPGK promoter
HBVpolyA
BglII (3481)
EcoRI (4676)
Ssc8387I (3557)
AscI (4534)
XbaI (3565)
EcoRI (4183)

Figure 10

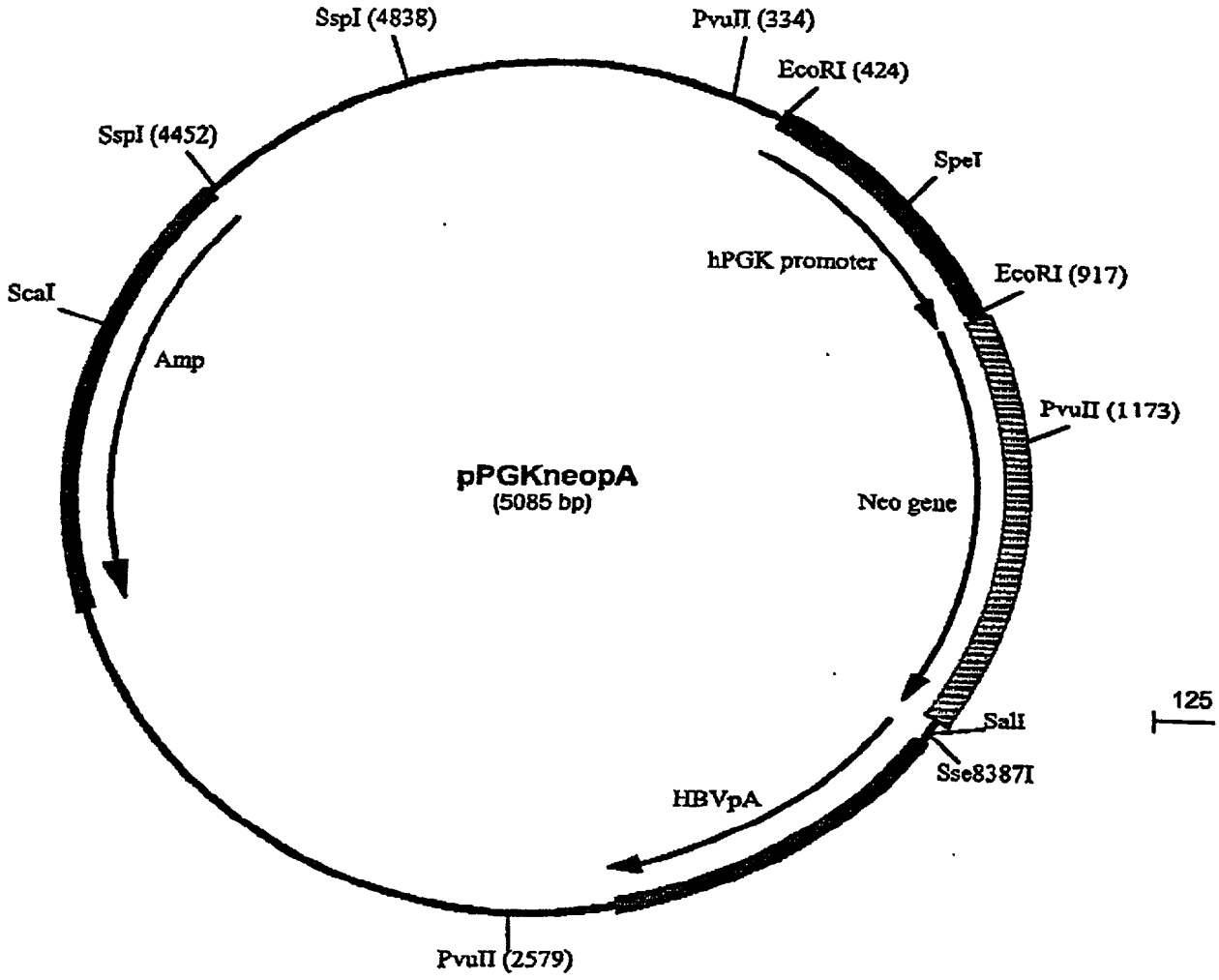


Figure 11

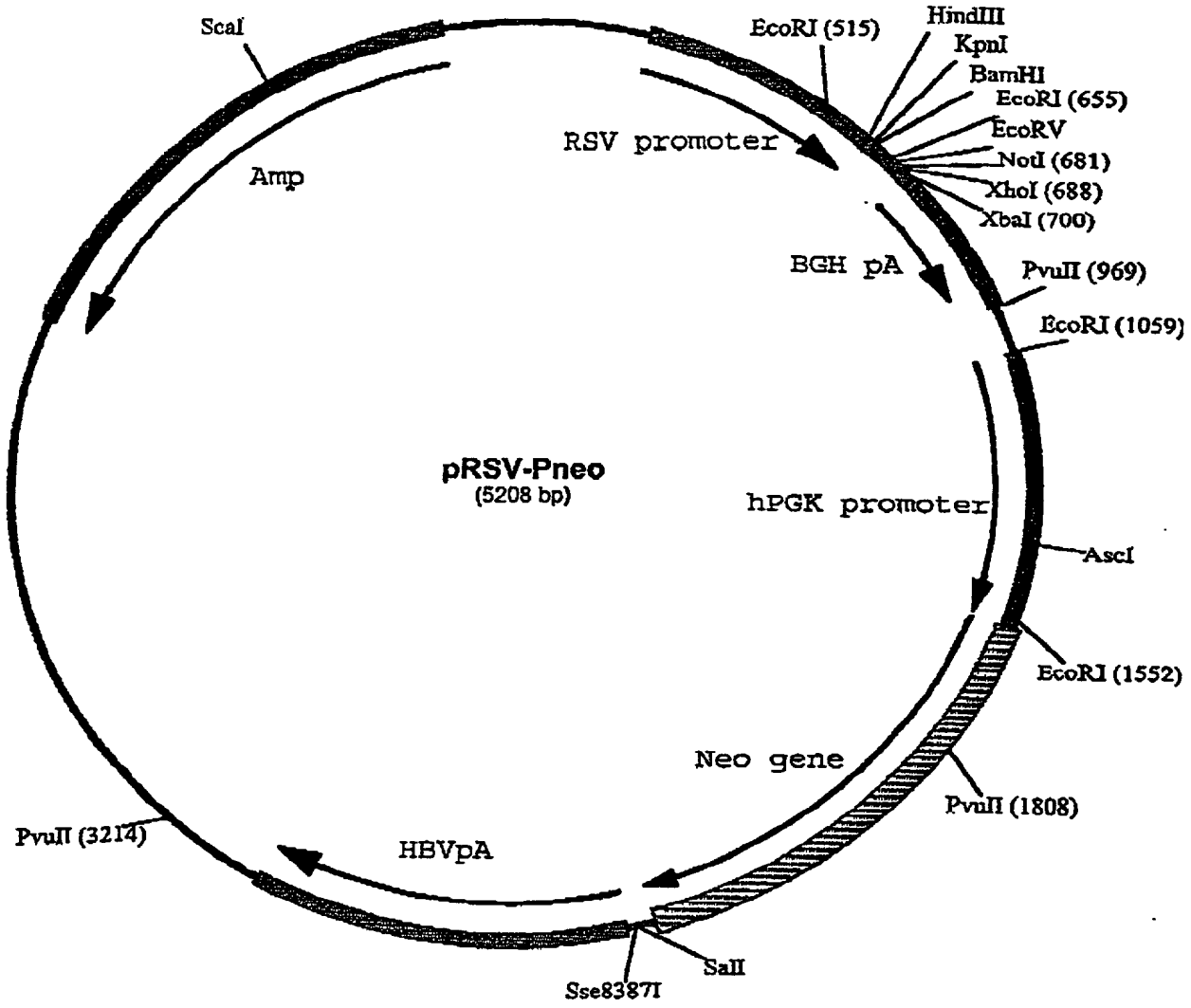

ScaI
EcoRI (515)
HindIII
KpnI
BamHI
EcoRI (655)
EcoRV
NotI (681)
XhoI (688)
XbaI (700)
RSV promoter
Amp
BGH pA
PvuII (969)
EcoRI (1059)
pRSV-Pneo
(5208 bp)
hPGK promoter
AscI
EcoRI (1552)
Neo gene
PvuII (1808)
PvuII (3214)
HBVpA
SalI
Sse8387I

Figure 12

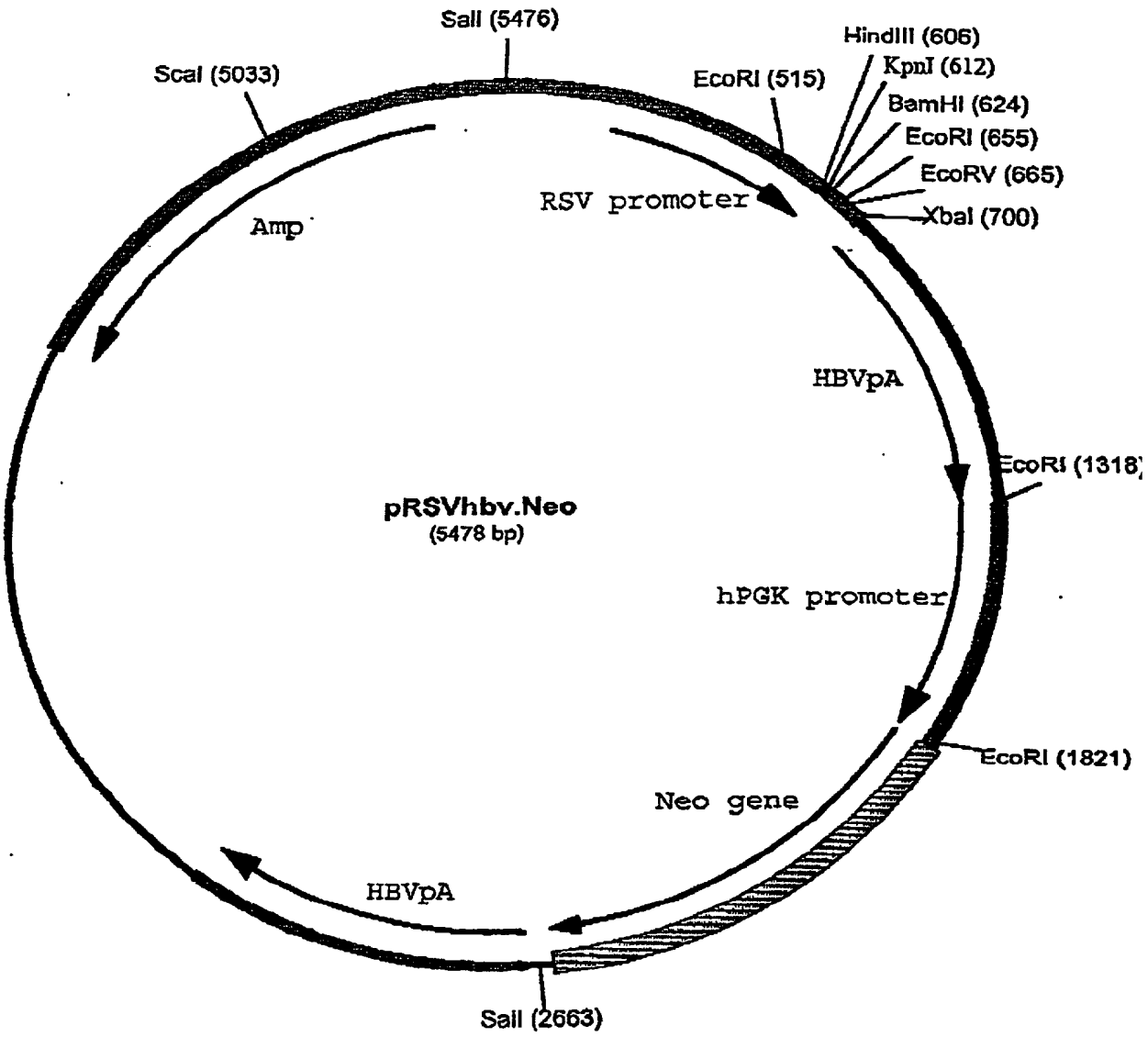


Figure 13

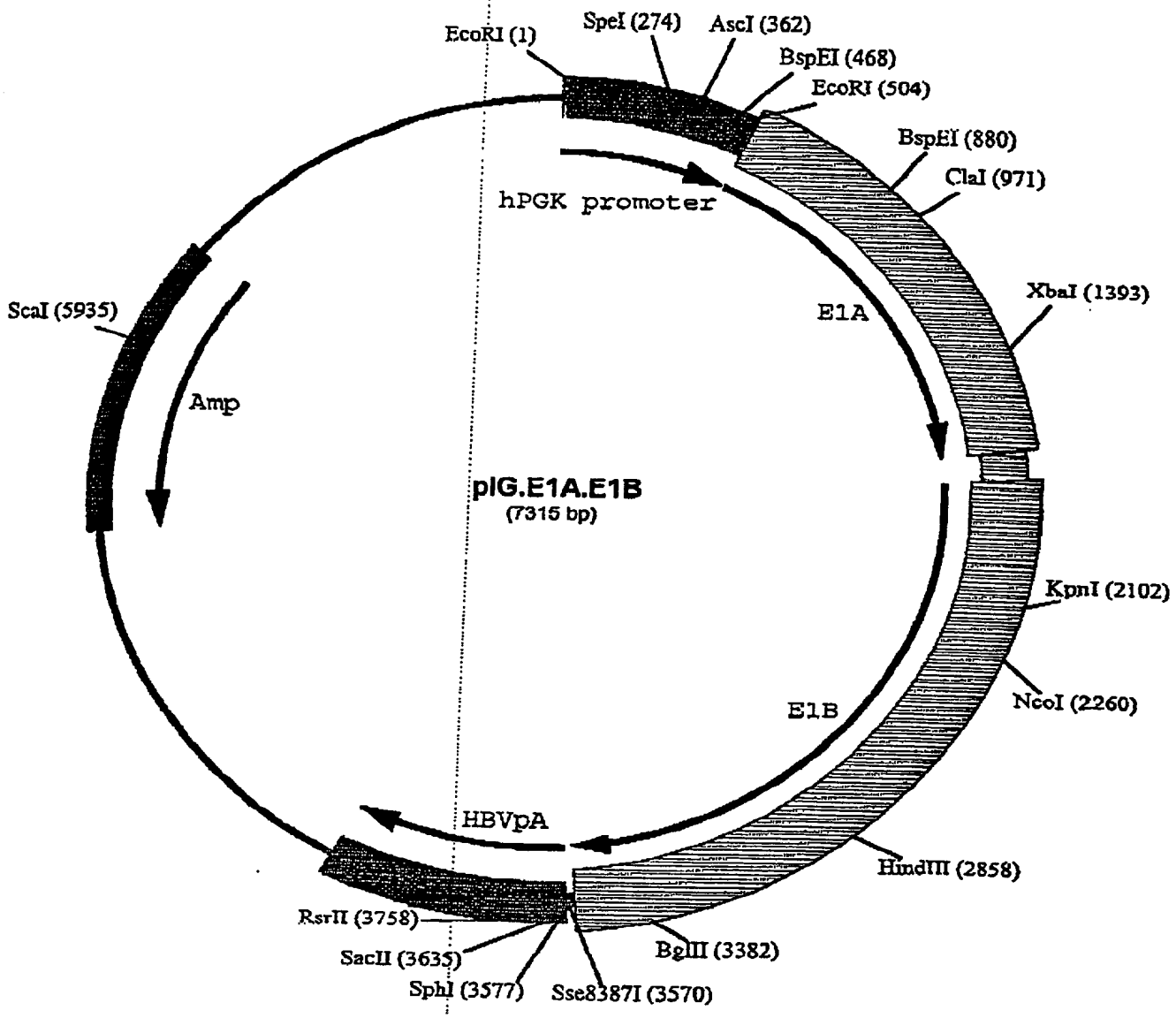

EcoRI (1)
SpeI (274)
AscI (362)
BspEI (468)
EcoRI (504)
BspEI (880)
ClaI (971)
XbaI (1393)
KpnI (2102)
NcoI (2260)
HindIII (2858)
BglII (3382)
Sse8387I (3570)
SphI (3577)
SacII (3635)
RsrII (3758)
HBVpA
E1B
E1A
hPGK promoter
Amp
ScaI (5935)
pIG.E1A.E1B
(7315 bp)

Figure 14

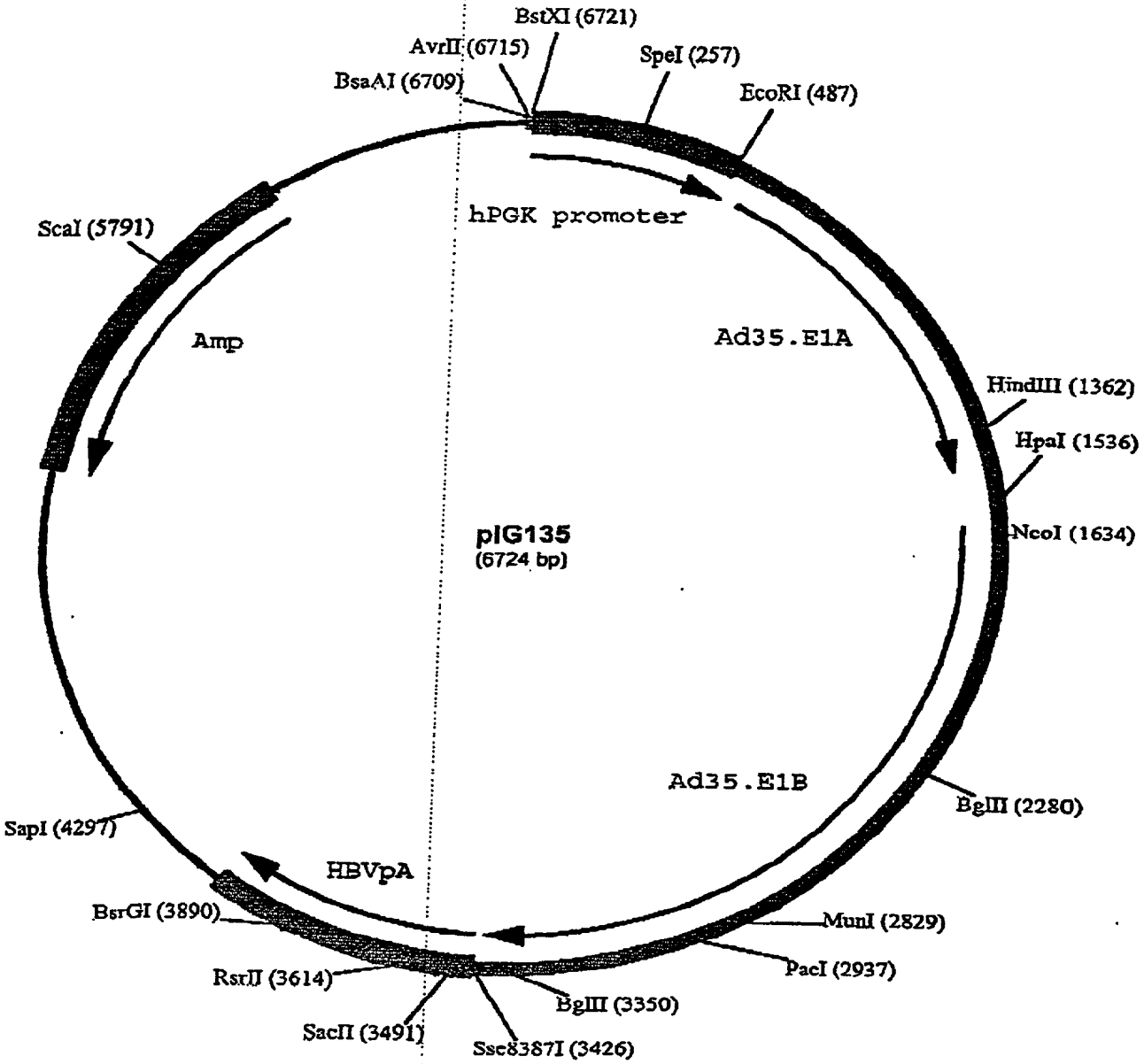

BstXI (6721)
AvrII (6715)
SpeI (257)
BsaAI (6709)
EcoRI (487)
hPGK promoter
ScaI (5791)
Amp
Ad35.E1A
HindIII (1362)
HpaI (1536)
pIG135
(6724 bp)
NcoI (1634)
Ad35.E1B
BglII (2280)
SapI (4297)
HBVpA
BsrGI (3890)
MunI (2829)
PacI (2937)
RsrII (3614)
BglII (3350)
SacII (3491)
Sse8387I (3426)

Figure 15

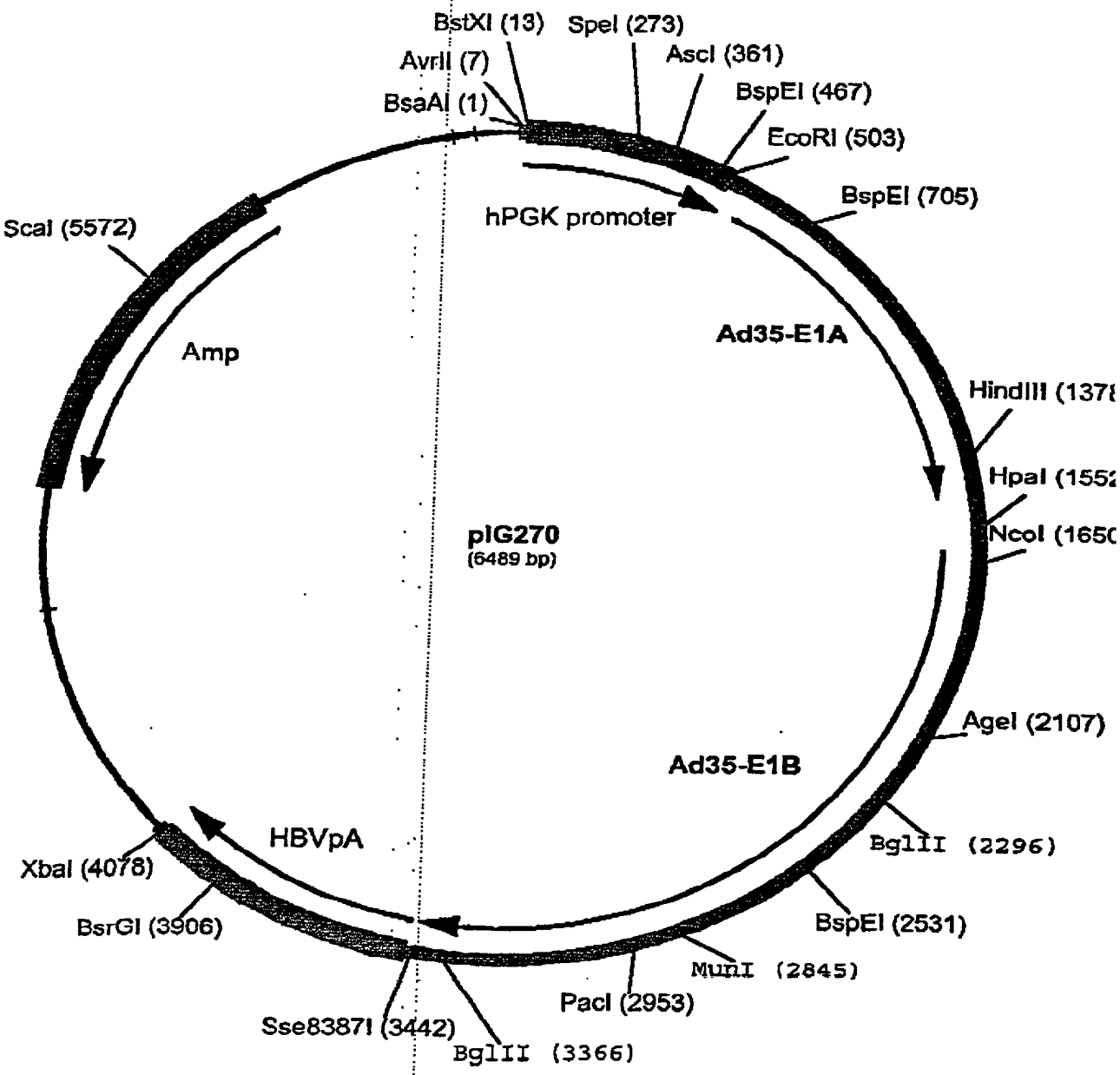

BstXI (13)
SpeI (273)
AscI (361)
AvrII (7)
BspEI (467)
BsaAI (1)
EcoRI (503)
BspEI (705)
hPGK promoter
ScaI (5572)
Amp
Ad35-E1A
HindIII (137
HpaI (155
NcoI (165
pIG270
(6489 bp)
AgeI (2107)
Ad35-E1B
HBVpA
BglII (2296)
XbaI (4078)
BsrGI (3906)
BspEI (2531)
MunI (2845)
PacI (2953)
Sse8387I (3442)
BglII (3366)

Figure 16

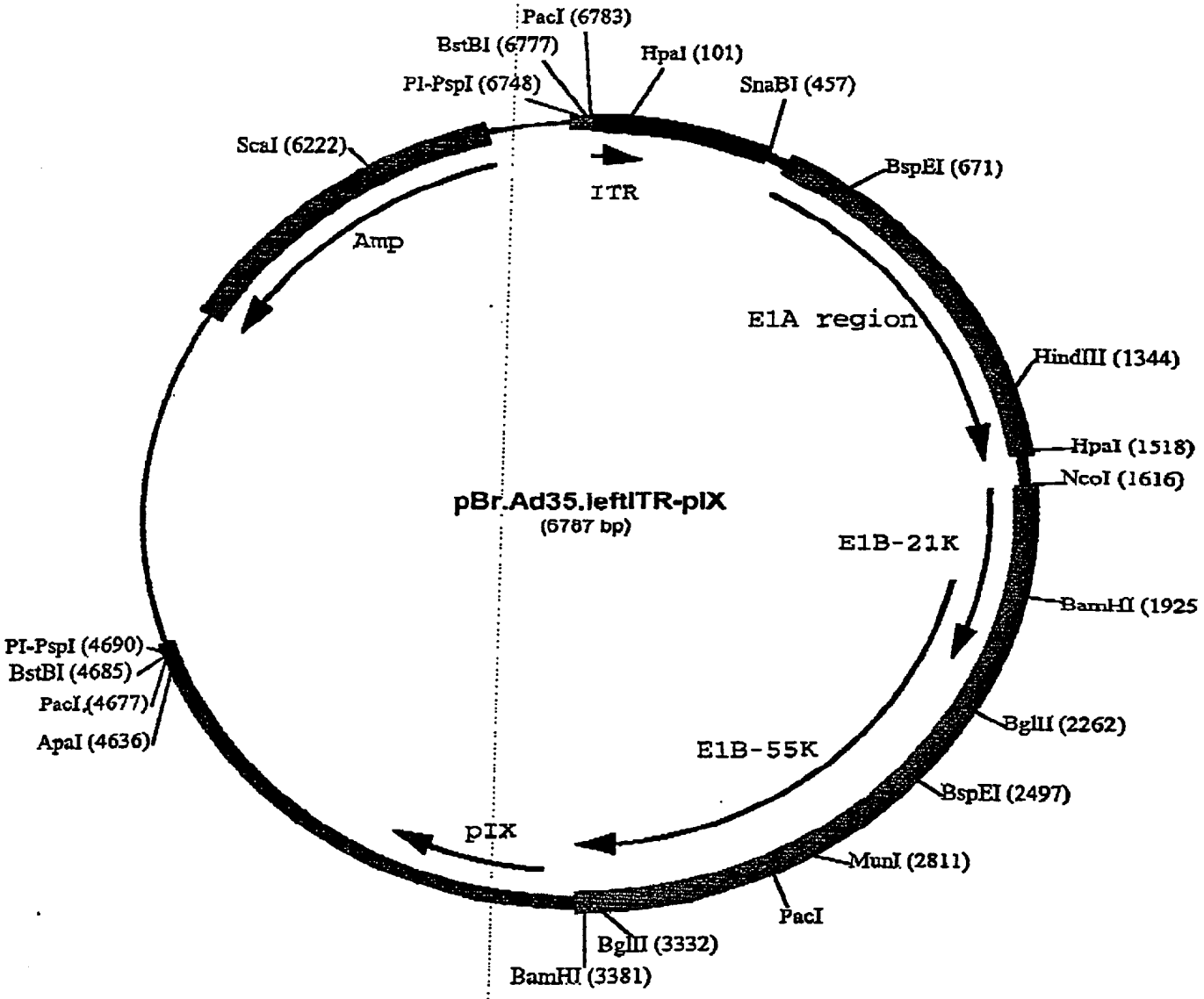

PacI (6783)
BstBI (6777)
HpaI (101)
PI-PspI (6748)
SnaBI (457)
ScaI (6222)
BspEI (671)
ITR
Amp
E1A region
HindIII (1344)
HpaI (1518)
NcoI (1616)
pBr.Ad35.leftITR-pIX
(6787 bp)
E1B-21K
BamHI (1925
PI-PspI (4690)
BstBI (4685)
PacI (4677)
ApaI (4636)
BglII (2262)
E1B-55K
BspEI (2497)
pIX
MunI (2811)
PacI
BglII (3332)
BamHI (3381)

Figure 17

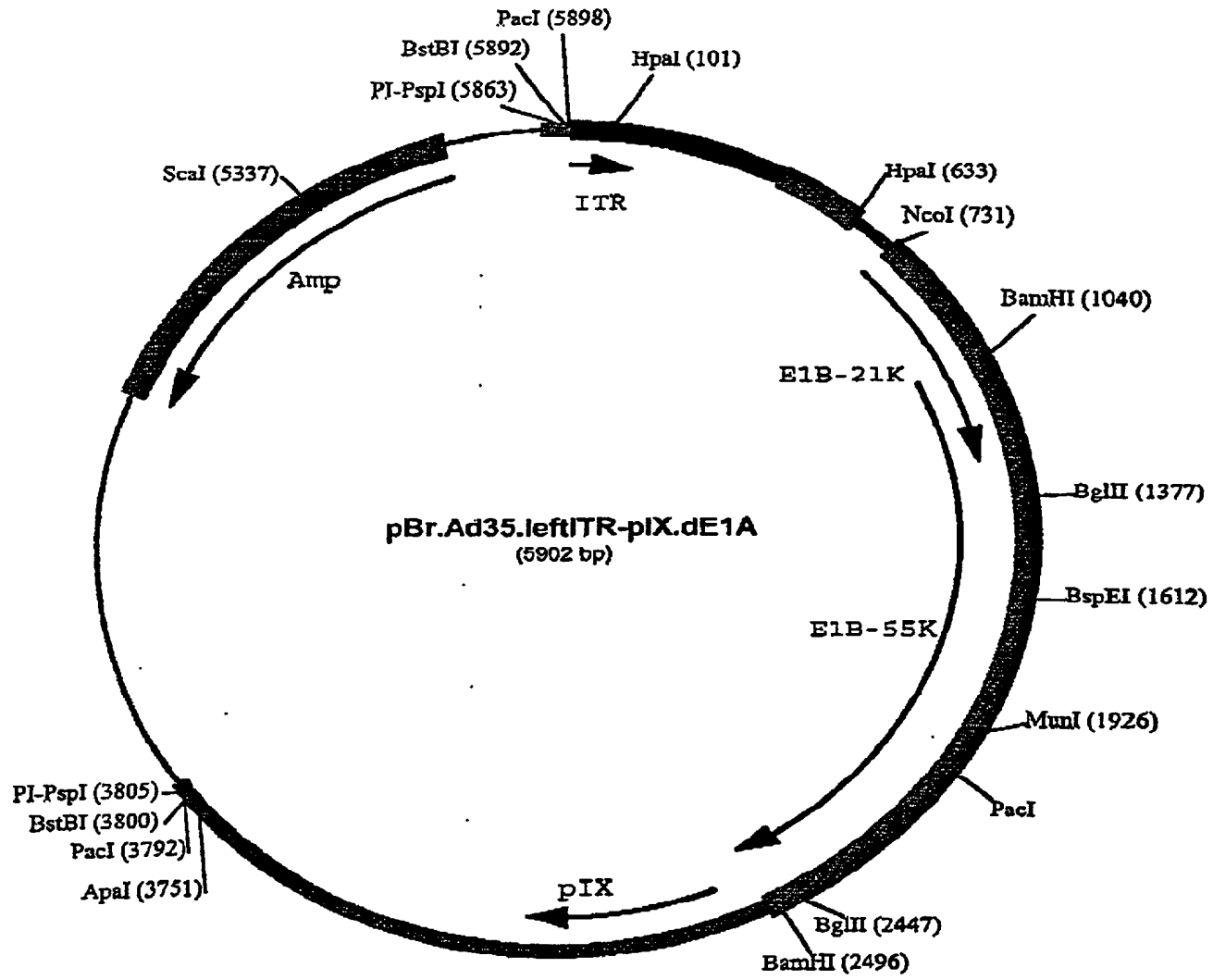

PacI (5898)
BstBI (5892)
PI-PspI (5863)
HpaI (101)
ScaI (5337)
ITR
HpaI (633)
NcoI (731)
Amp
BamHI (1040)
E1B-21K
BglII (1377)
pBr.Ad35.leftITR-pIX.dE1A
(5902 bp)
BspEI (1612)
E1B-55K
MunI (1926)
PacI
PI-PspI (3805)
BstBI (3800)
PacI (3792)
ApaI (3751)
pIX
BglII (2447)
BamHI (2496)

Figure 18

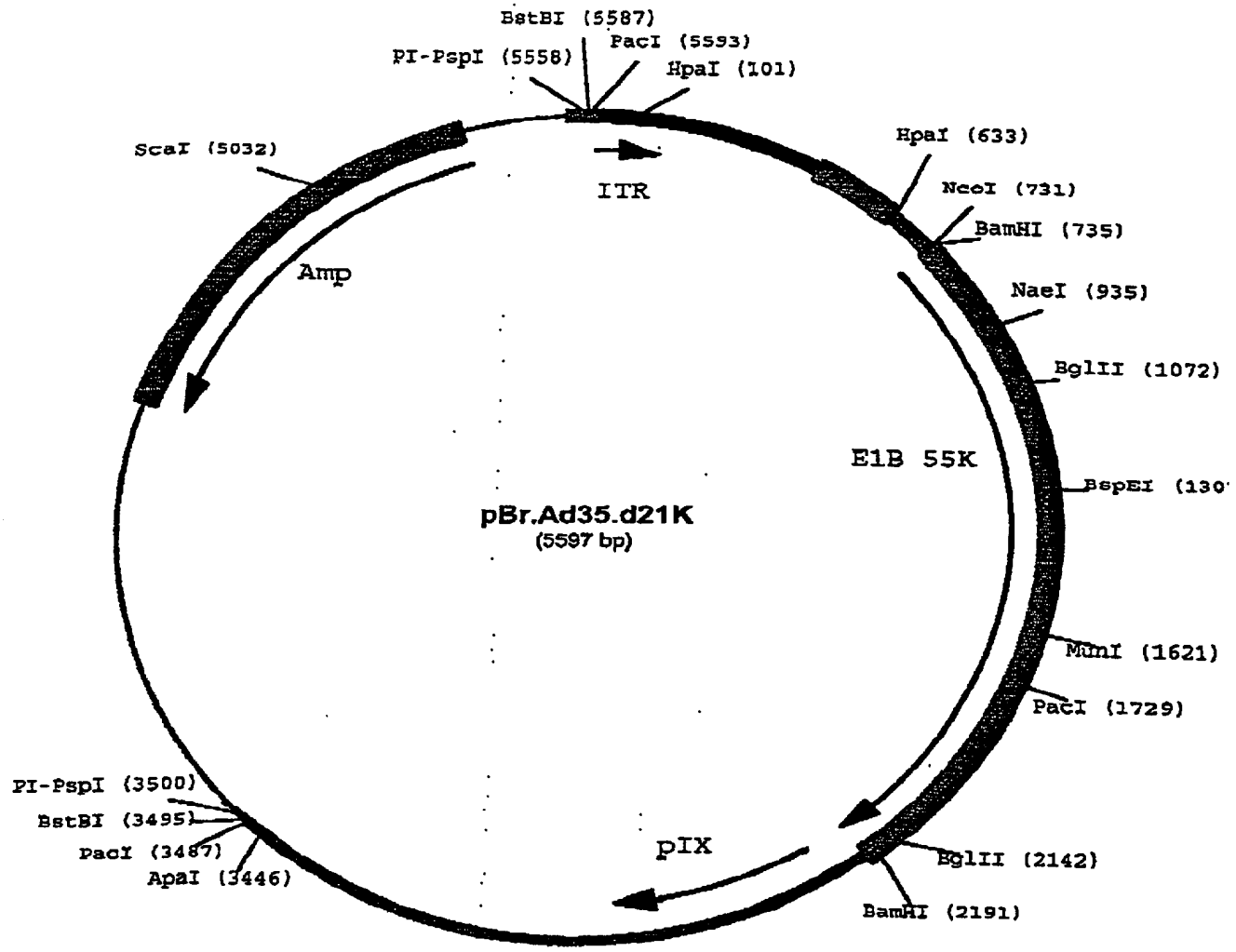

BstBI (5587)
PacI (5593)
PI-PspI (5558)
HpaI (101)
ScaI (5032)
ITR
HpaI (633)
NcoI (731)
BamHI (735)
Amp
NaeI (935)
BglII (1072)
E1B 55K
pBr.Ad35.d21K
(5597 bp)
BspEI (130
MunI (1621)
PacI (1729)
PI-PspI (3500)
BstBI (3495)
PacI (3487)
ApaI (3446)
pIX
BglII (2142)
BamHI (2191)

Figure 19

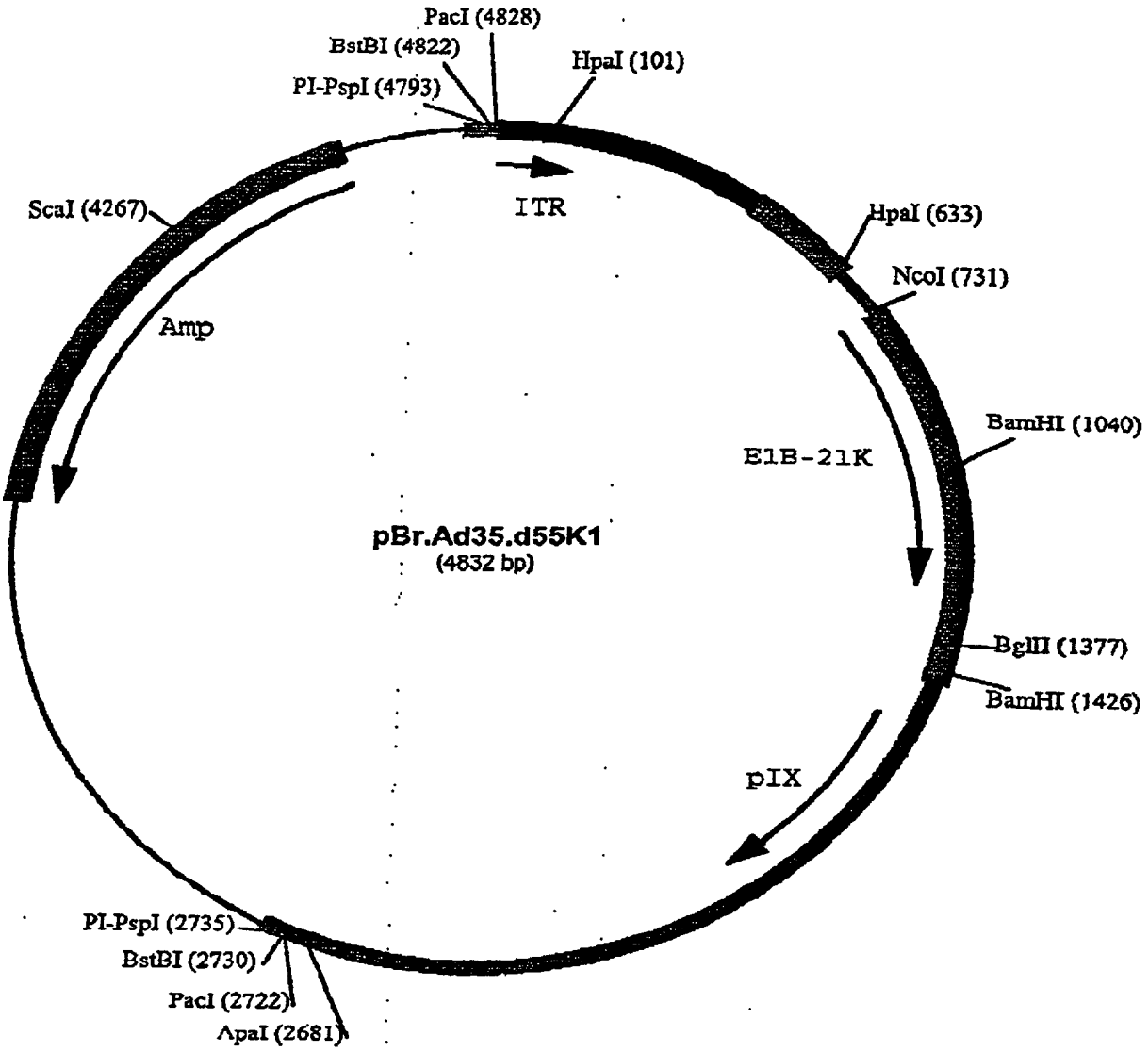
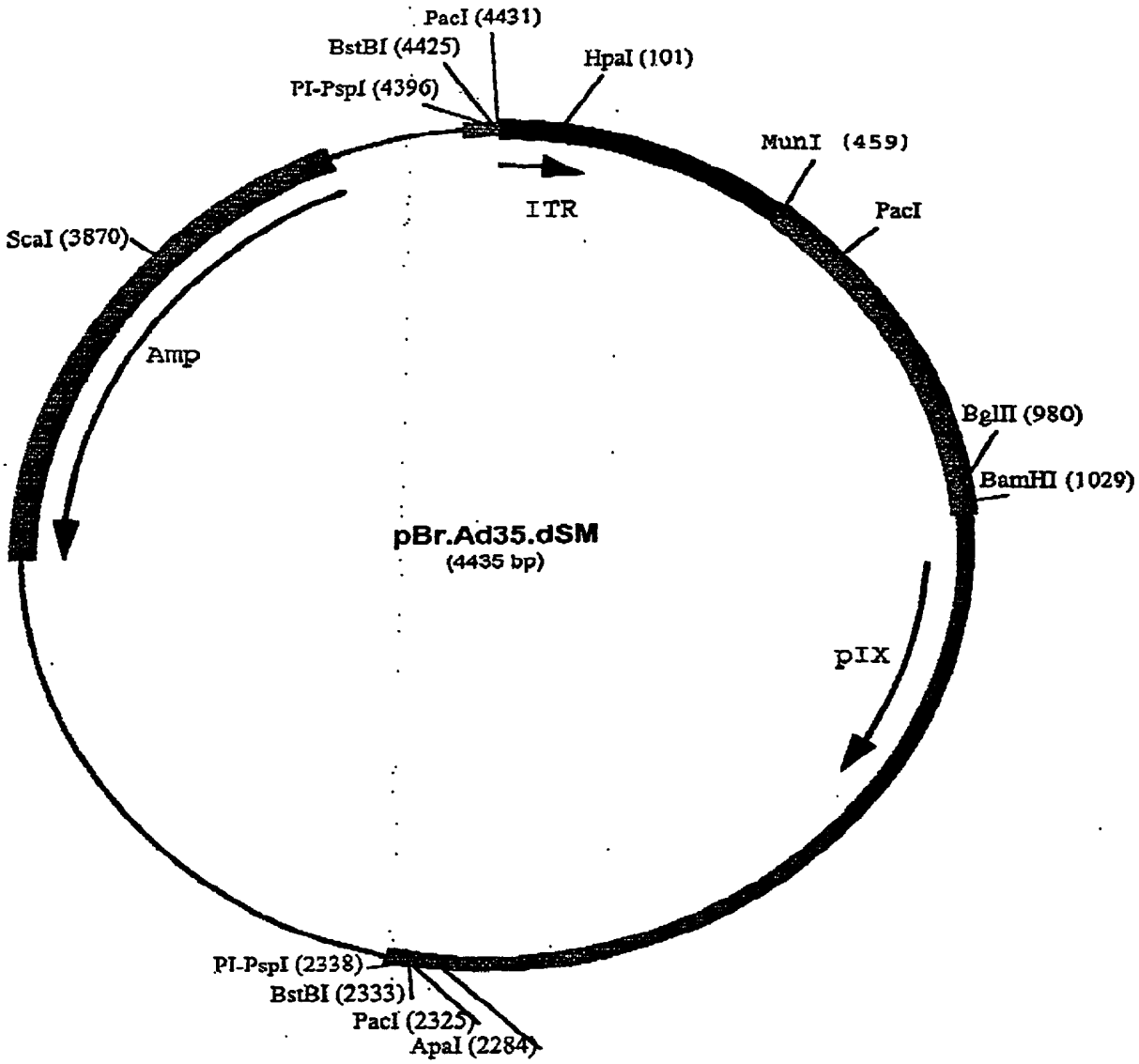

PacI (4828)
BstBI (4822)
PI-PspI (4793)
HpaI (101)
ITR
ScaI (4267)
HpaI (633)
NcoI (731)
Amp
BamHI (1040)
E1B-21K
pBr.Ad35.d55K1
(4832 bp)
BglII (1377)
BamHI (1426)
pIX
PI-PspI (2735)
BstBI (2730)
PacI (2722)
ApaI (2681)

Figure 20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BstBI (4425)
PI-PspI (4396)
HpaI (101)
MunI (459)
ITR
PacI
ScaI (3870)
Amp
BglII (980)
BamHI (1029)
pBr.Ad35.dSM
(4435 bp)
pIX
PI-PspI (2338)
BstBI (2333)
PacI (2325)
ApaI (2284)

Figure 21

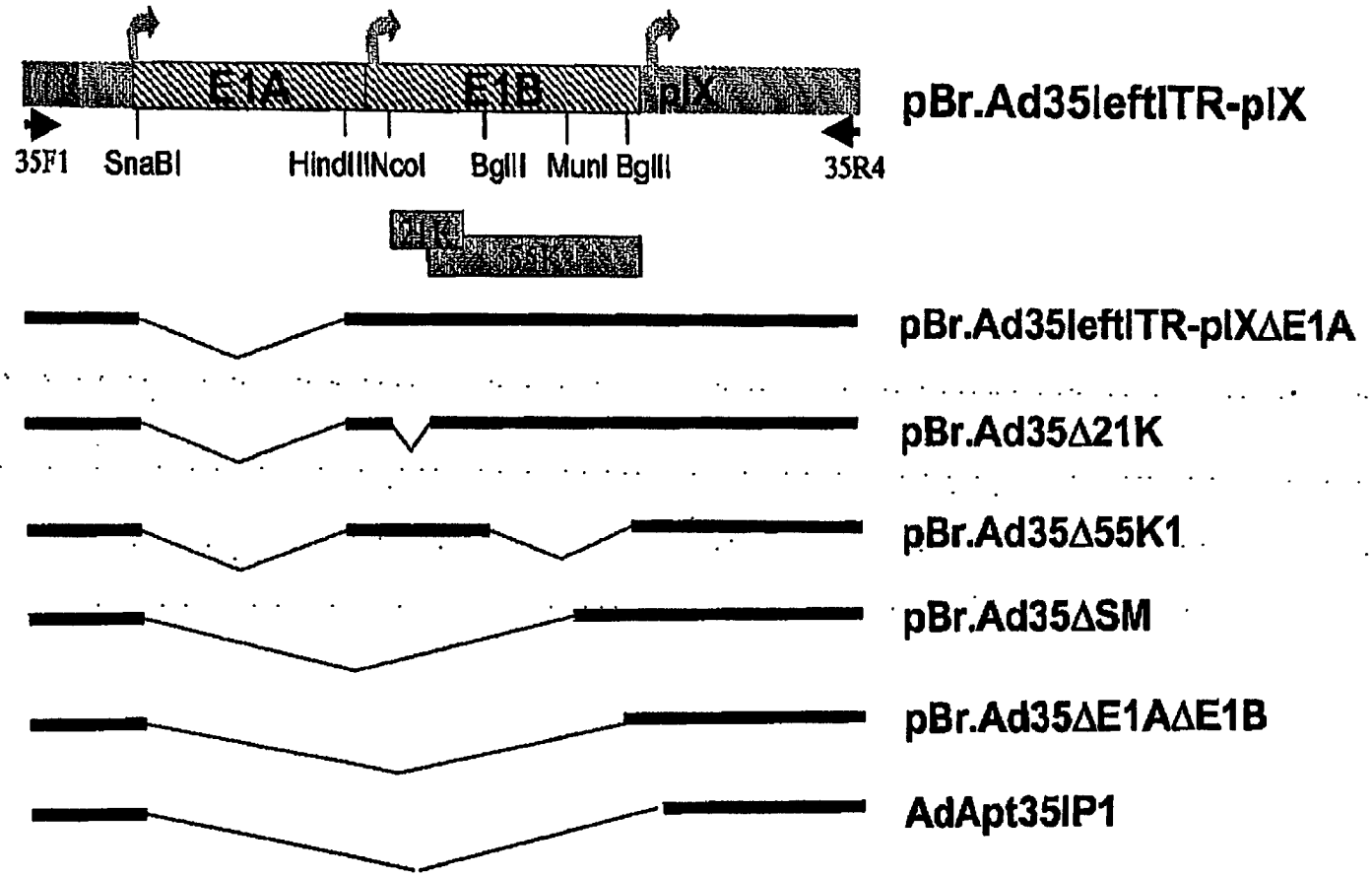

E1A
E1B
pIX
35F1
SnaBI
HindIIINcoI
BglII
MunI
BglII
35R4
pBr.Ad35leftITR-pIX
pBr.Ad35leftITR-pIXΔE1A
pBr.Ad35Δ21K
pBr.Ad35Δ55K1
pBr.Ad35ΔSM
pBr.Ad35ΔE1AΔE1B
AdApt35IP1

Figure 22

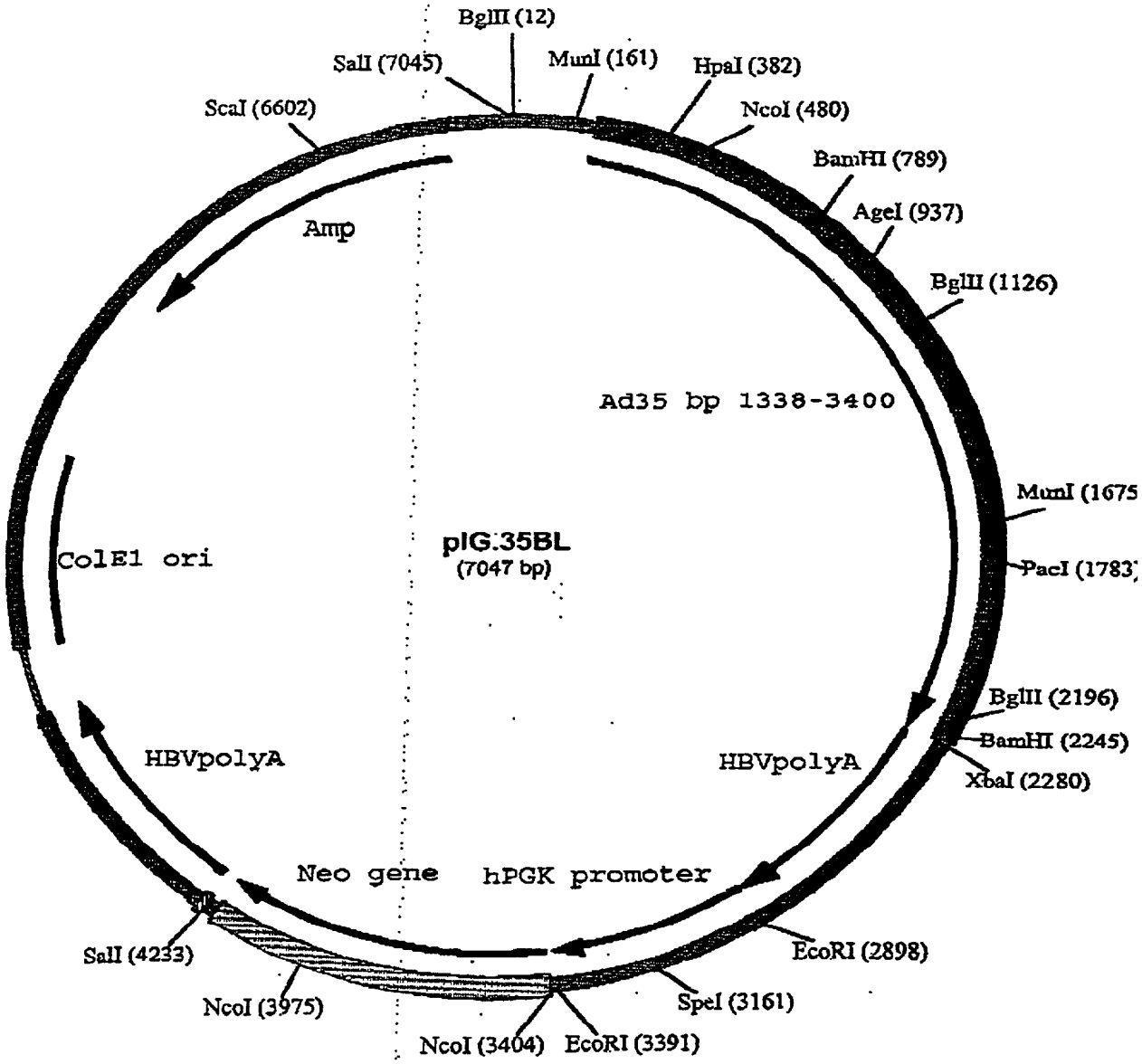

BglII (12)
SalI (7045)
MunI (161)
HpaI (382)
ScaI (6602)
NcoI (480)
BamHI (789)
AgeI (937)
Amp
BglII (1126)
Ad35 bp 1338-3400
MunI (1675
pIG.35BL
(7047 bp)
ColE1 ori
PacI (1783)
BglII (2196)
BamHI (2245)
XbaI (2280)
HBVpolyA
HBVpolyA
Neo gene
hPGK promoter
SalI (4233)
EcoRI (2898)
NcoI (3975)
SpeI (3161)
NcoI (3404)
EcoRI (3391)

Figure 23

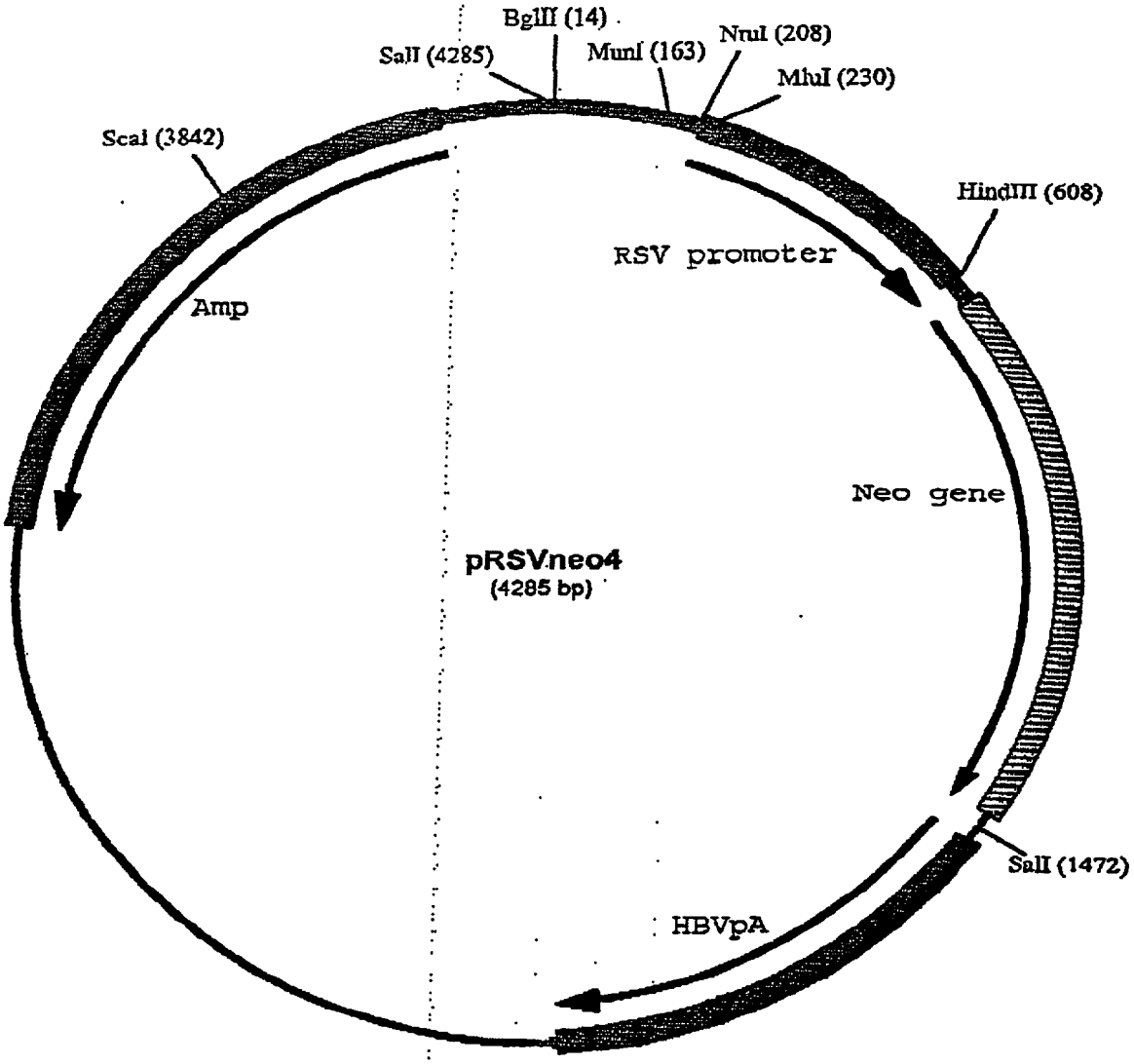

BglII (14)
NruI (208)
SalI (4285)
MunI (163)
MluI (230)
ScaI (3842)
HindIII (608)
RSV promoter
Amp
Neo gene
pRSVneo4
(4285 bp)
SalI (1472)
HBVpA

Figure 24

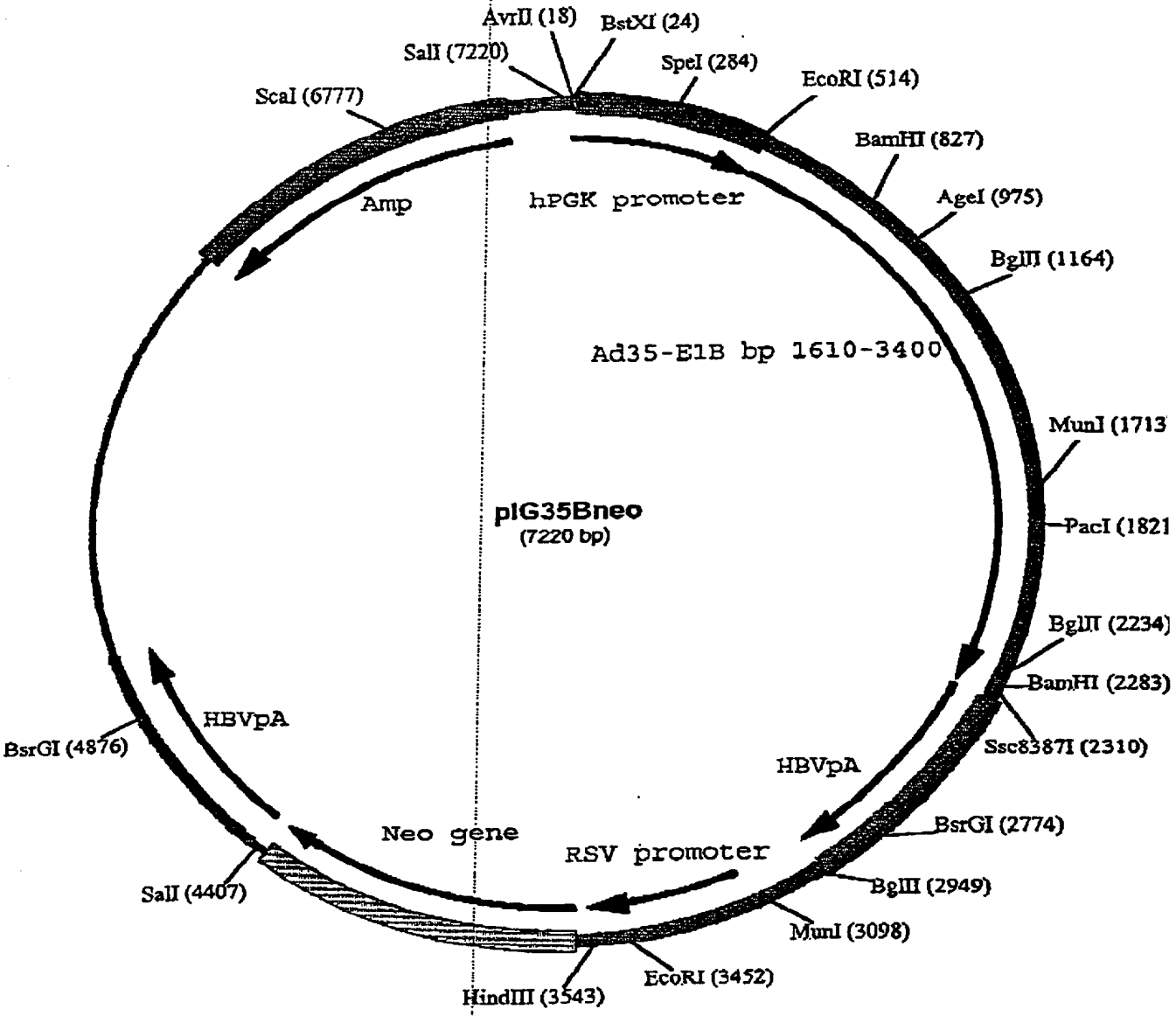


Figure 25

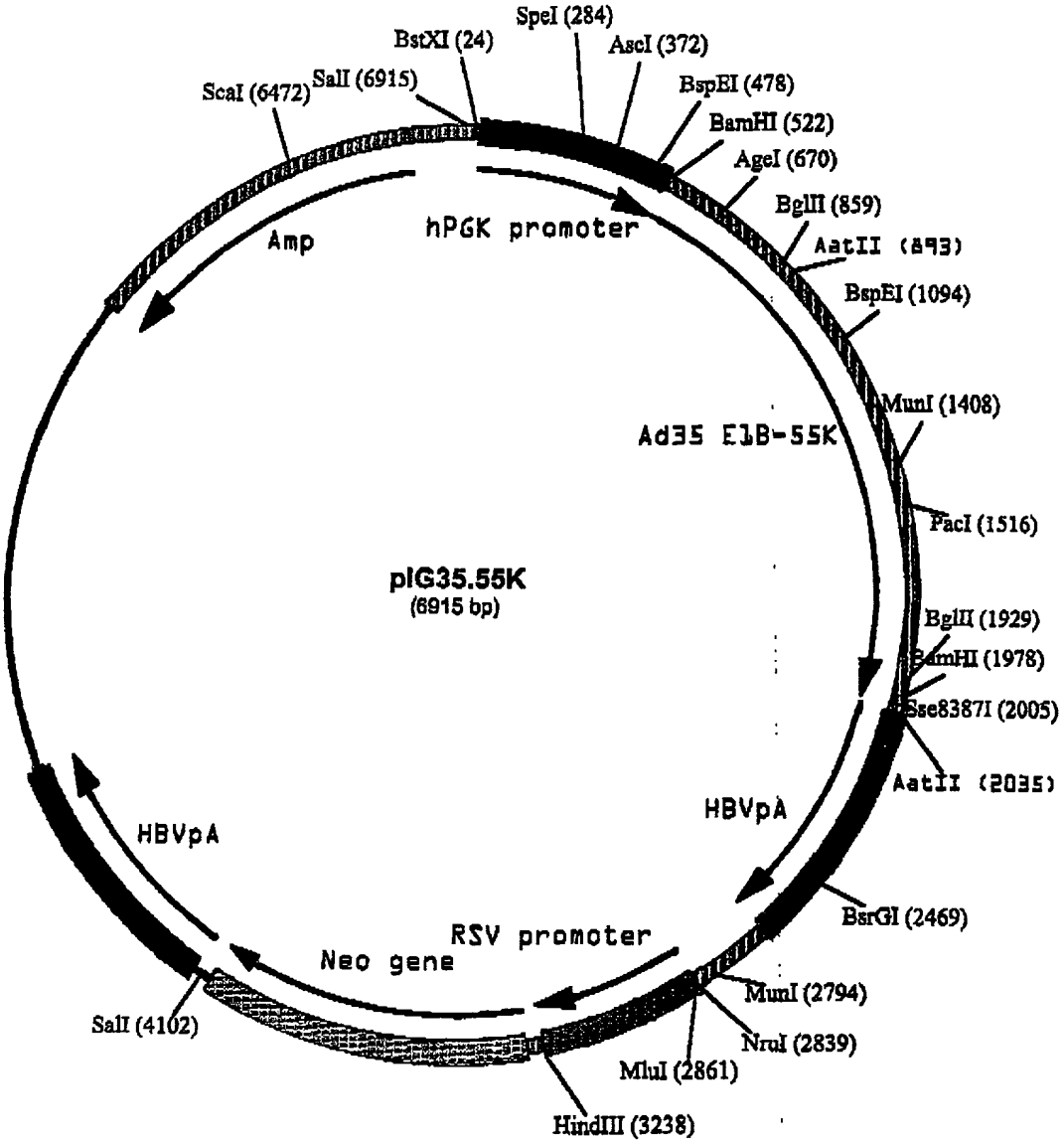

SpeI (284)
BstXI (24)
AscI (372)
ScaI (6472)
SalI (6915)
BspEI (478)
BamHI (522)
AgeI (670)
BglII (859)
Amp
hPGK promoter
AatII (893)
BspEI (1094)
MunI (1408)
Ad35 E1B-55K
PacI (1516)
pIG35.55K
(6915 bp)
BglII (1929)
BamHI (1978)
Sse8387I (2005)
AatII (2035)
HBVpA
HBVpA
BsrGI (2469)
RSV promoter
Neo gene
MunI (2794)
NruI (2839)
SalI (4102)
MluI (2861)
HindIII (3238)

Figure 26

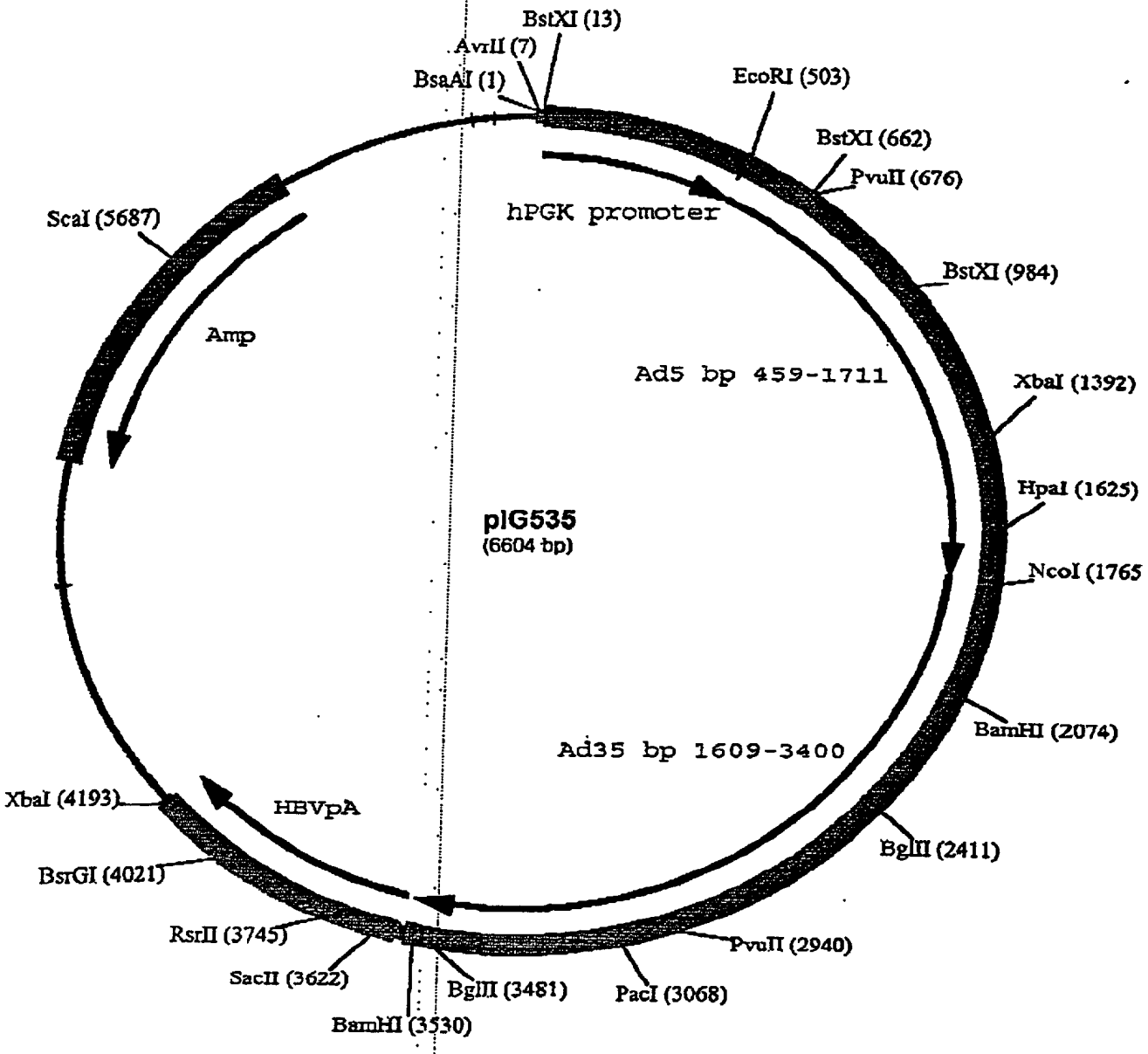


Figure 27

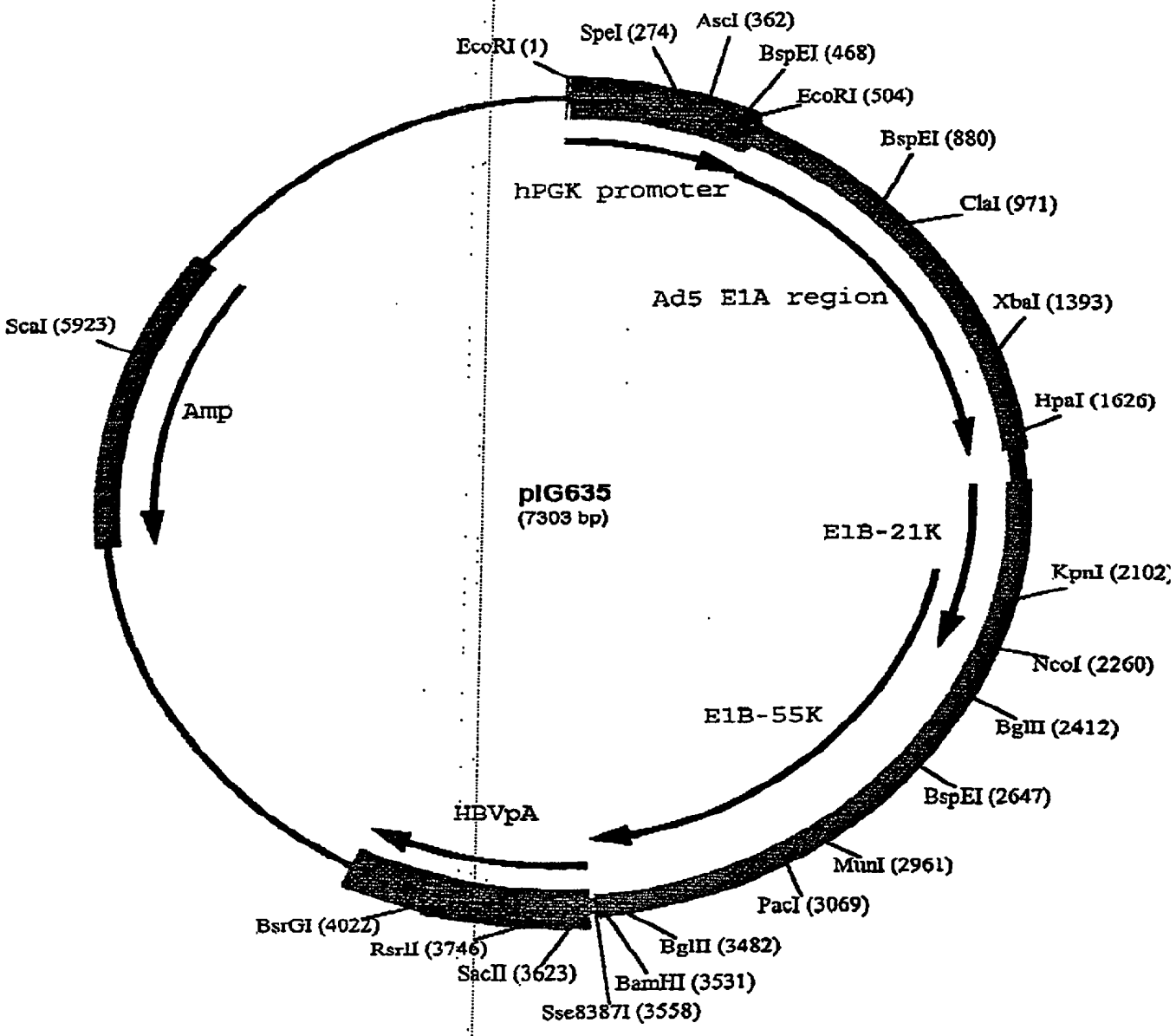

EcoRI (1)
SpeI (274)
AscI (362)
BspEI (468)
EcoRI (504)
BspEI (880)
ClaI (971)
XbaI (1393)
HpaI (1626)
KpnI (2102)
NcoI (2260)
BglII (2412)
BspEI (2647)
MunI (2961)
PacI (3069)
BglII (3482)
BamHI (3531)
Sse8387I (3558)
SacII (3623)
RsrII (3746)
BsrGI (4022)
ScaI (5923)
hPGK promoter
Ad5 E1A region
Amp
pIG635
(7303 bp)
E1B-21K
E1B-55K
HBVpA

Figure 28

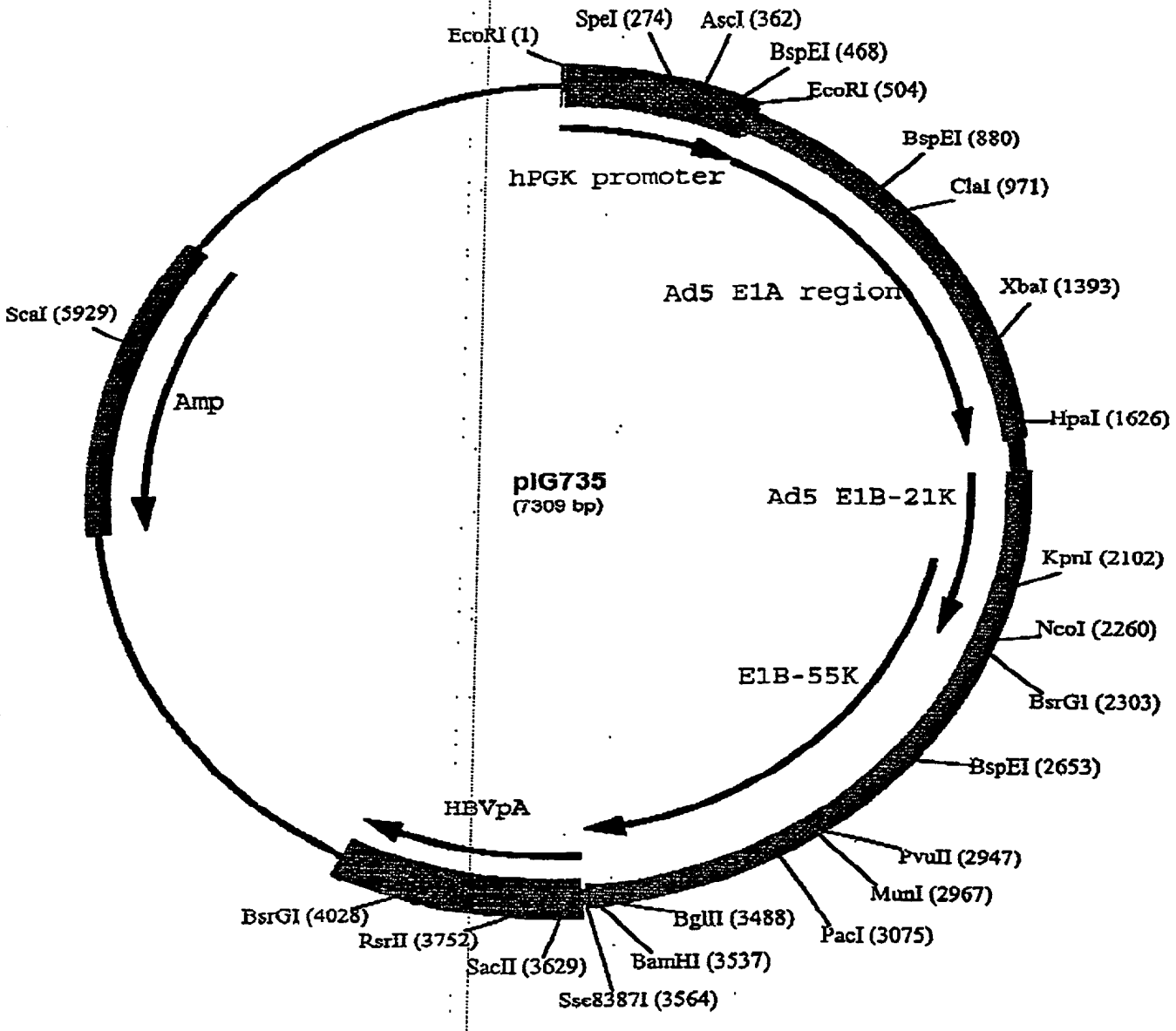


Figure 29

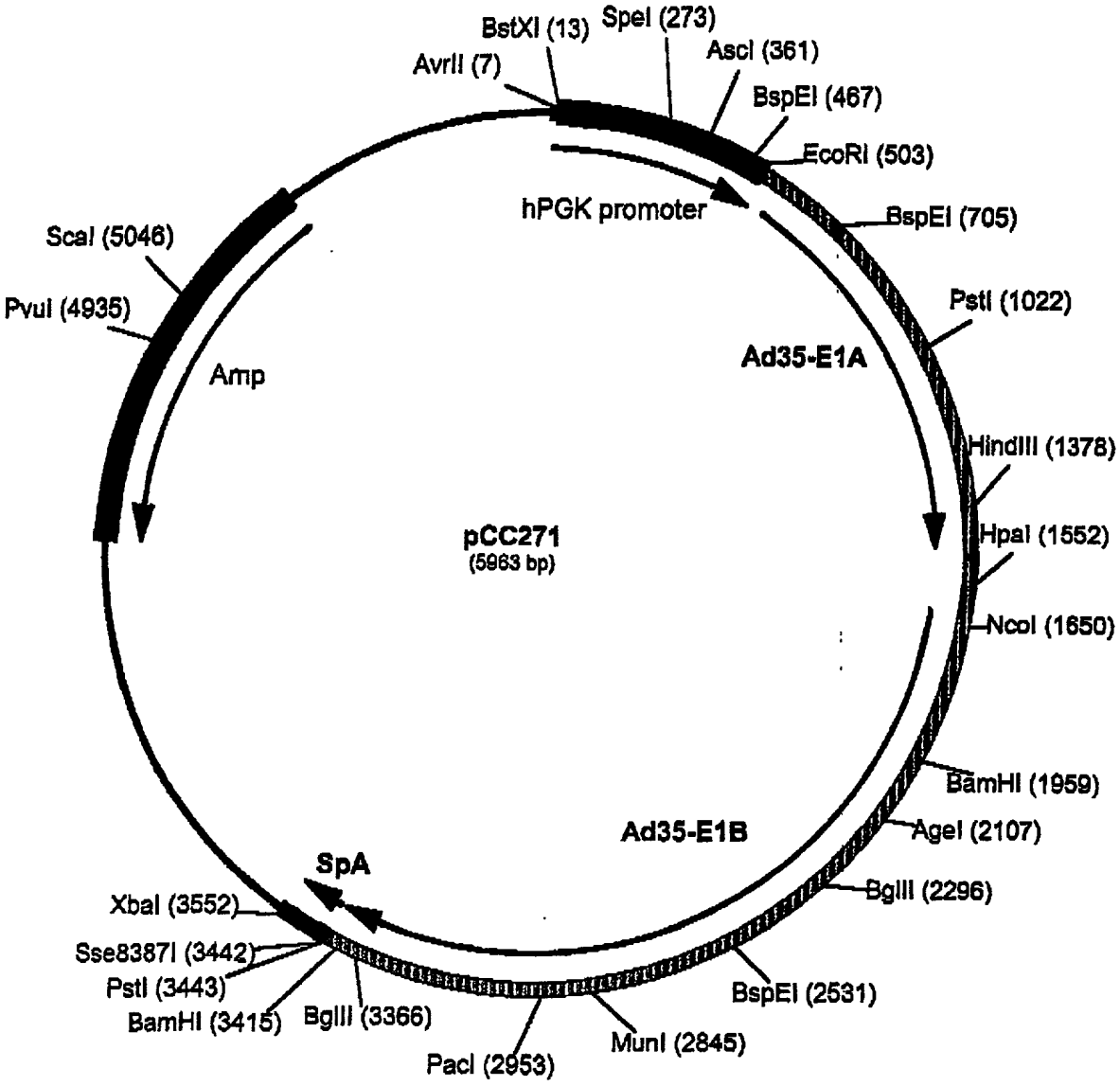

BstXI (13)
SpeI (273)
AvrII (7)
AscI (361)
BspEI (467)
EcoRI (503)
hPGK promoter
BspEI (705)
ScaI (5046)
PstI (1022)
PvuI (4935)
Ad35-E1A
Amp
HindIII (1378)
pCC271
(5963 bp)
HpaI (1552)
NcoI (1650)
BamHI (1959)
Ad35-E1B
AgeI (2107)
SpA
BglII (2296)
XbaI (3552)
Sse8387I (3442)
BspEI (2531)
PstI (3443)
BamHI (3415)
BglII (3366)
MunI (2845)
PacI (2953)

Figure 30

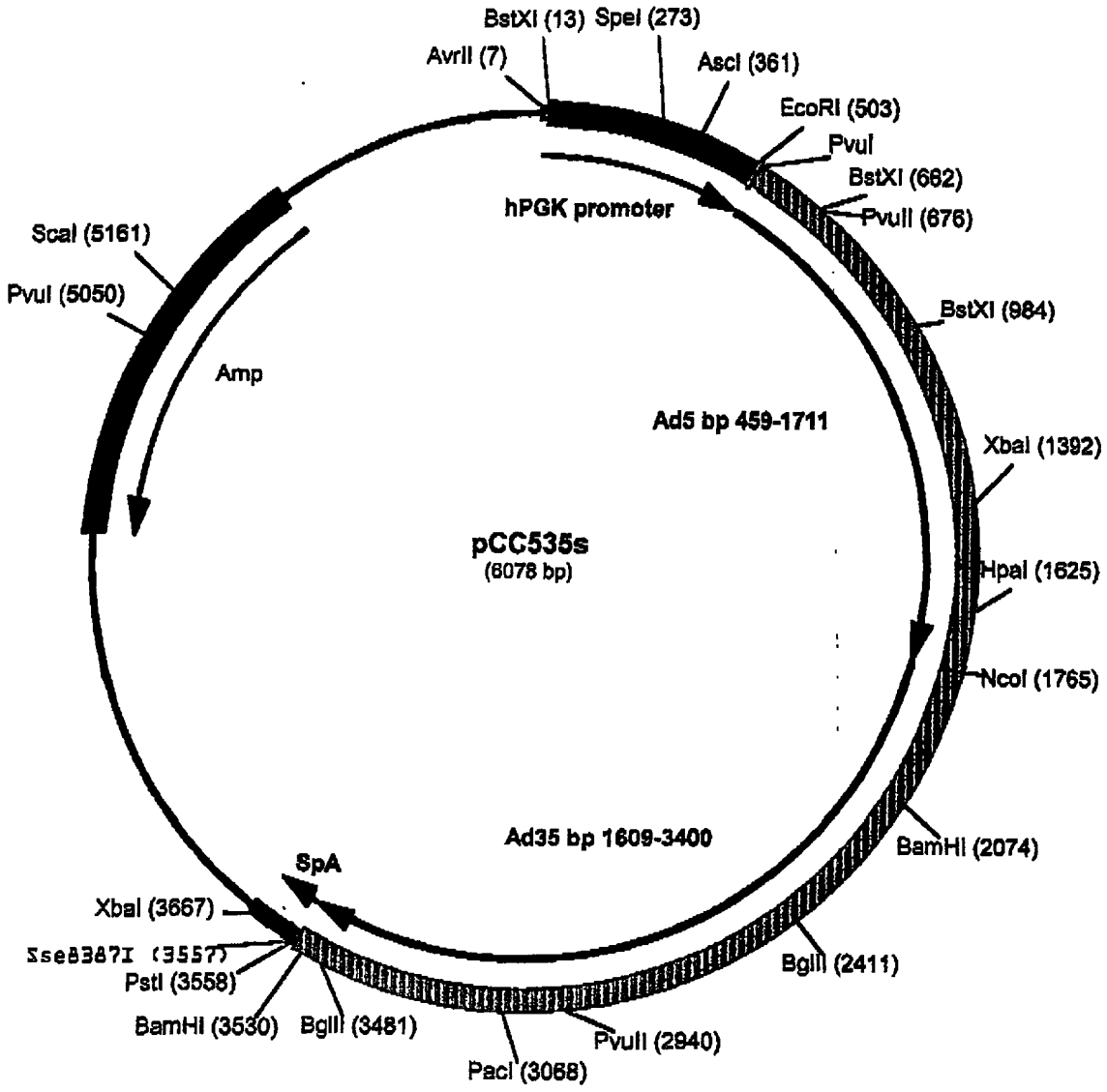

BstXI (13)
SpeI (273)
AvrII (7)
AscI (361)
EcoRI (503)
PvuI
BstXI (662)
PvuII (676)
hPGK promoter
ScaI (5161)
PvuI (5050)
BstXI (984)
Amp
Ad5 bp 459-1711
XbaI (1392)
pCC535s
(6078 bp)
HpaI (1625)
NcoI (1765)
Ad35 bp 1609-3400
BamHI (2074)
SpA
XbaI (3667)
Sse8387I (3557)
PstI (3558)
BglII (2411)
BamHI (3530)
BglII (3481)
PvuII (2940)
PacI (3068)

Figure 31

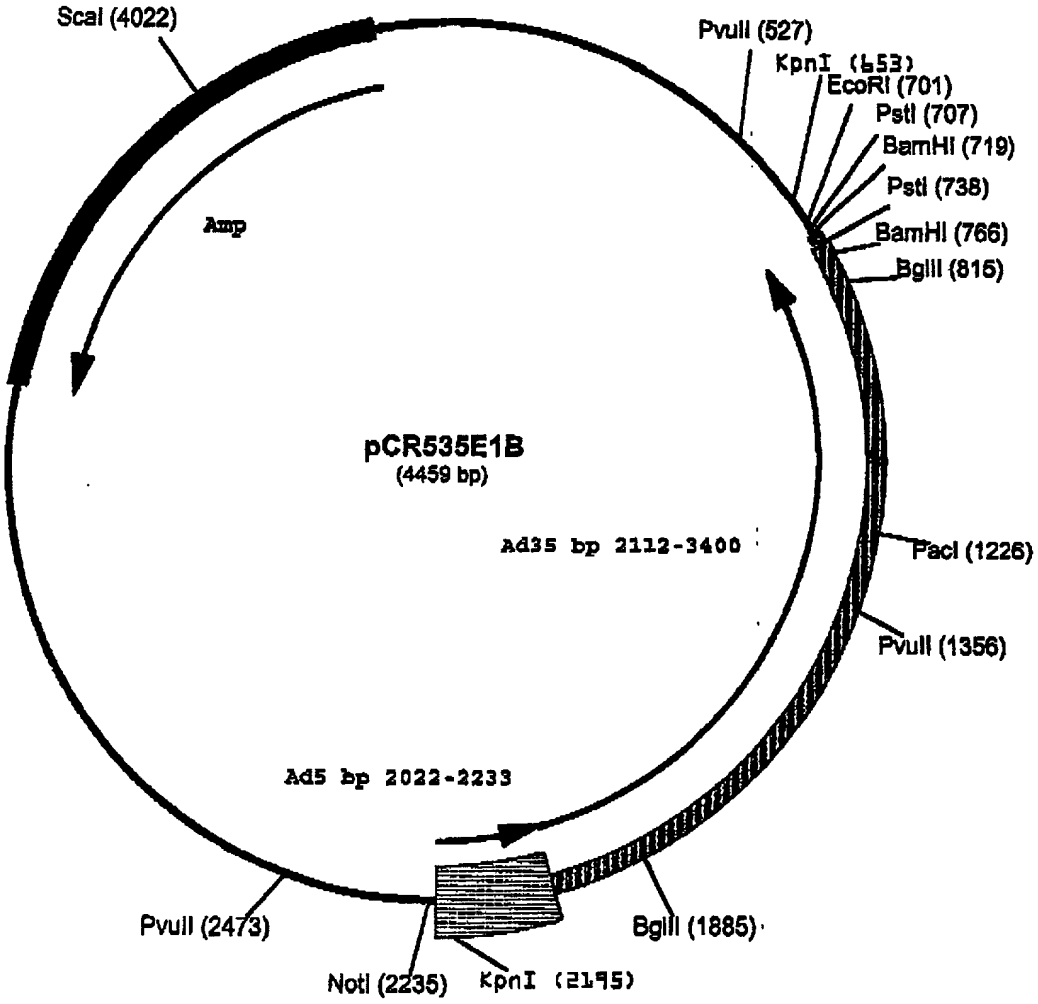

ScaI (4022)
PvuII (527)
KpnI (553)
EcoRI (701)
PstI (707)
BamHI (719)
PstI (738)
BamHI (766)
BglII (815)
Amp
pCR535E1B
(4459 bp)
Ad35 bp 2112-3400
PacI (1226)
PvuII (1356)
Ad5 bp 2022-2233
PvuII (2473)
BglII (1885)
NotI (2235)
KpnI (2195)

Figure 32

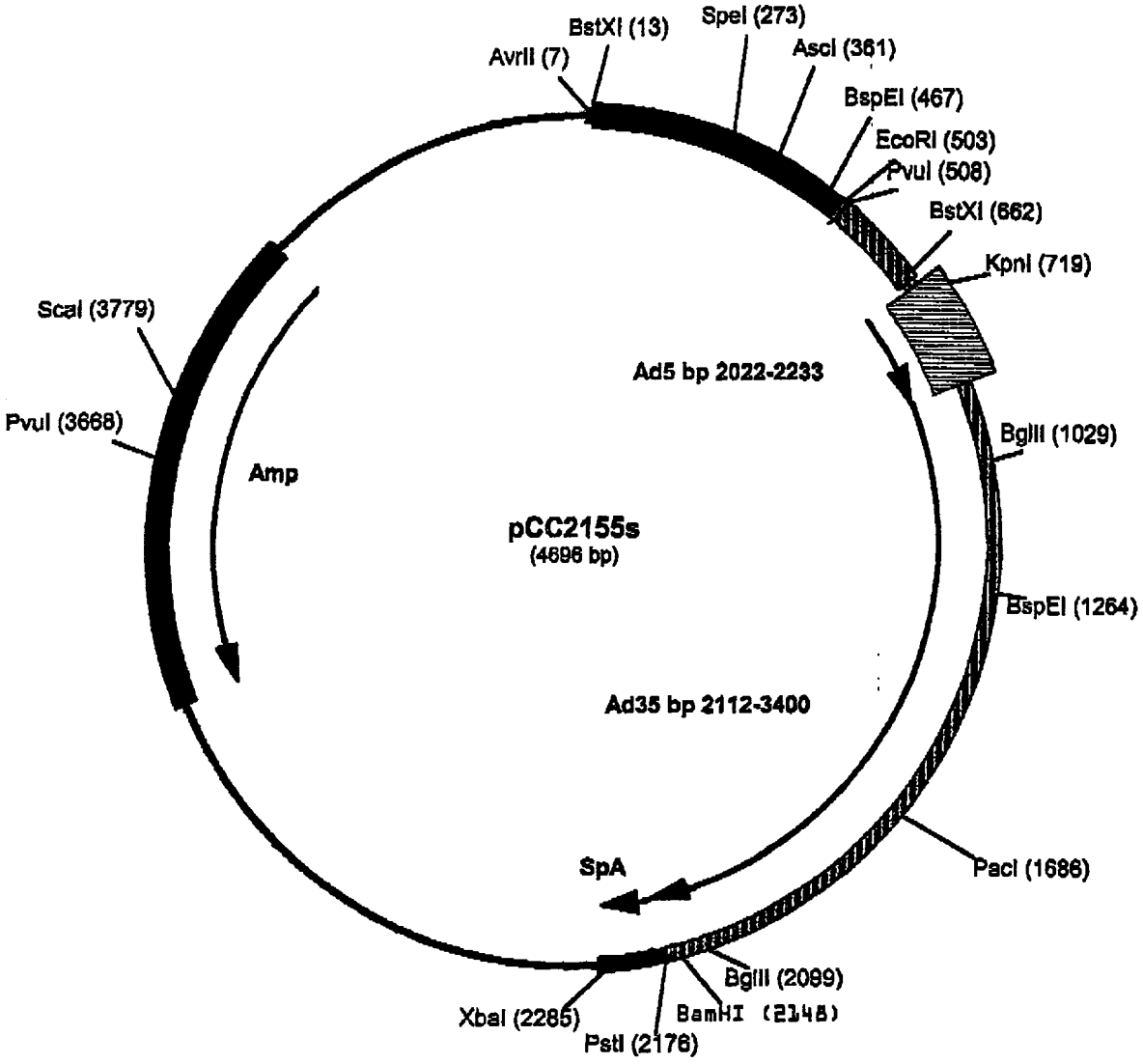

BstXI (13)
SpeI (273)
AvrII (7)
AscI (361)
BspEI (467)
EcoRI (503)
PvuI (508)
BstXI (662)
KpnI (719)
ScaI (3779)
Ad5 bp 2022-2233
PvuI (3668)
BglII (1029)
Amp
pCC2155s
(4696 bp)
BspEI (1264)
Ad35 bp 2112-3400
SpA
PacI (1686)
BglII (2089)
XbaI (2285)
BamHI (2148)
PstI (2176)

Figure 33

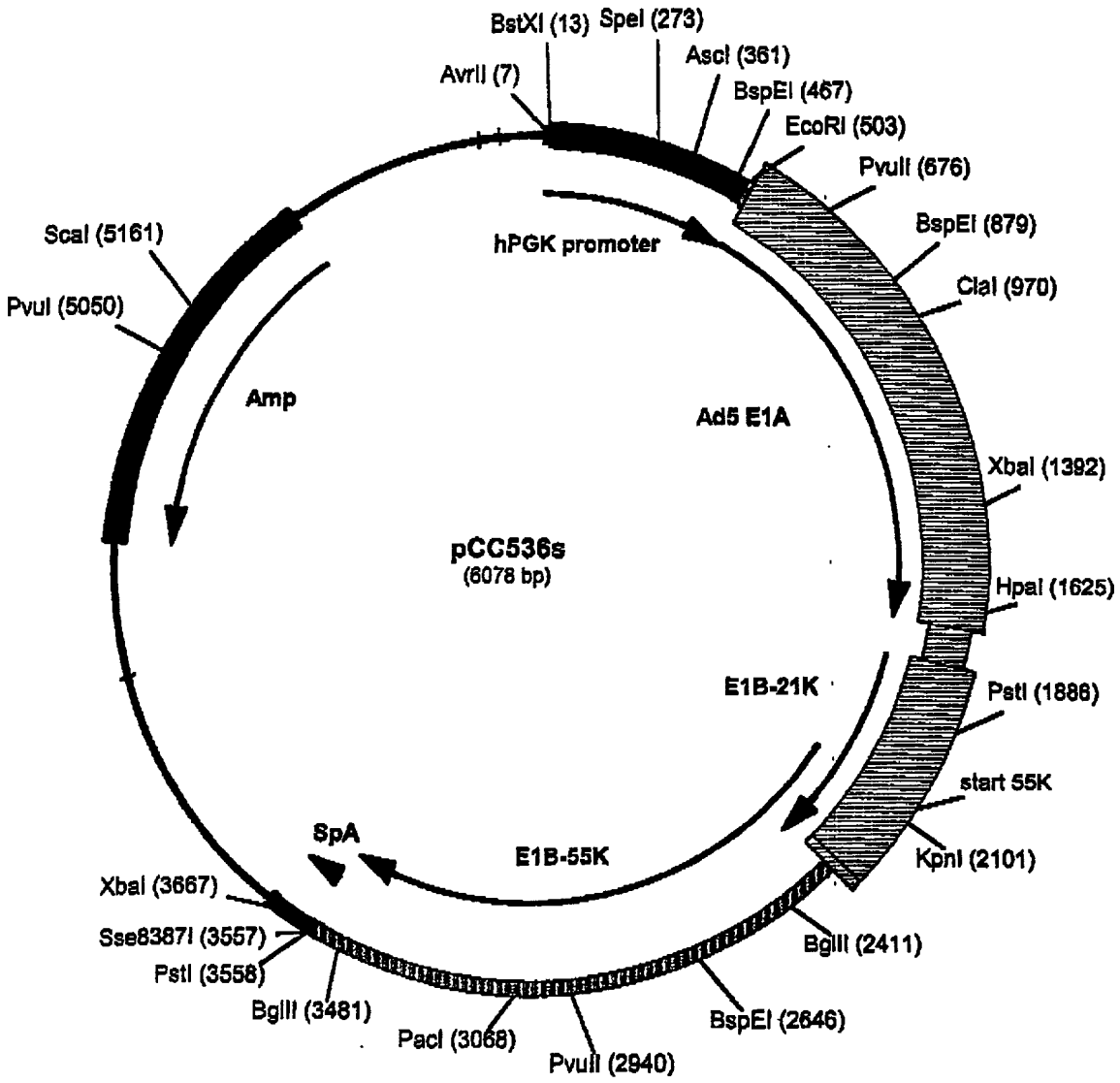

BstXI (13)
SpeI (273)
AscI (361)
AvrII (7)
BspEI (467)
EcoRI (503)
PvuII (676)
BspEI (879)
ScaI (5161)
hPGK promoter
ClaI (970)
PvuI (5050)
Amp
Ad5 E1A
XbaI (1392)
pCC536s
(6078 bp)
HpaI (1625)
E1B-21K
PstI (1886)
start 55K
SpA
E1B-55K
KpnI (2101)
XbaI (3667)
Sse8387I (3557)
BglII (2411)
PstI (3558)
BglII (3481)
BspEI (2646)
PacI (3068)
PvuII (2940)

Figure 34

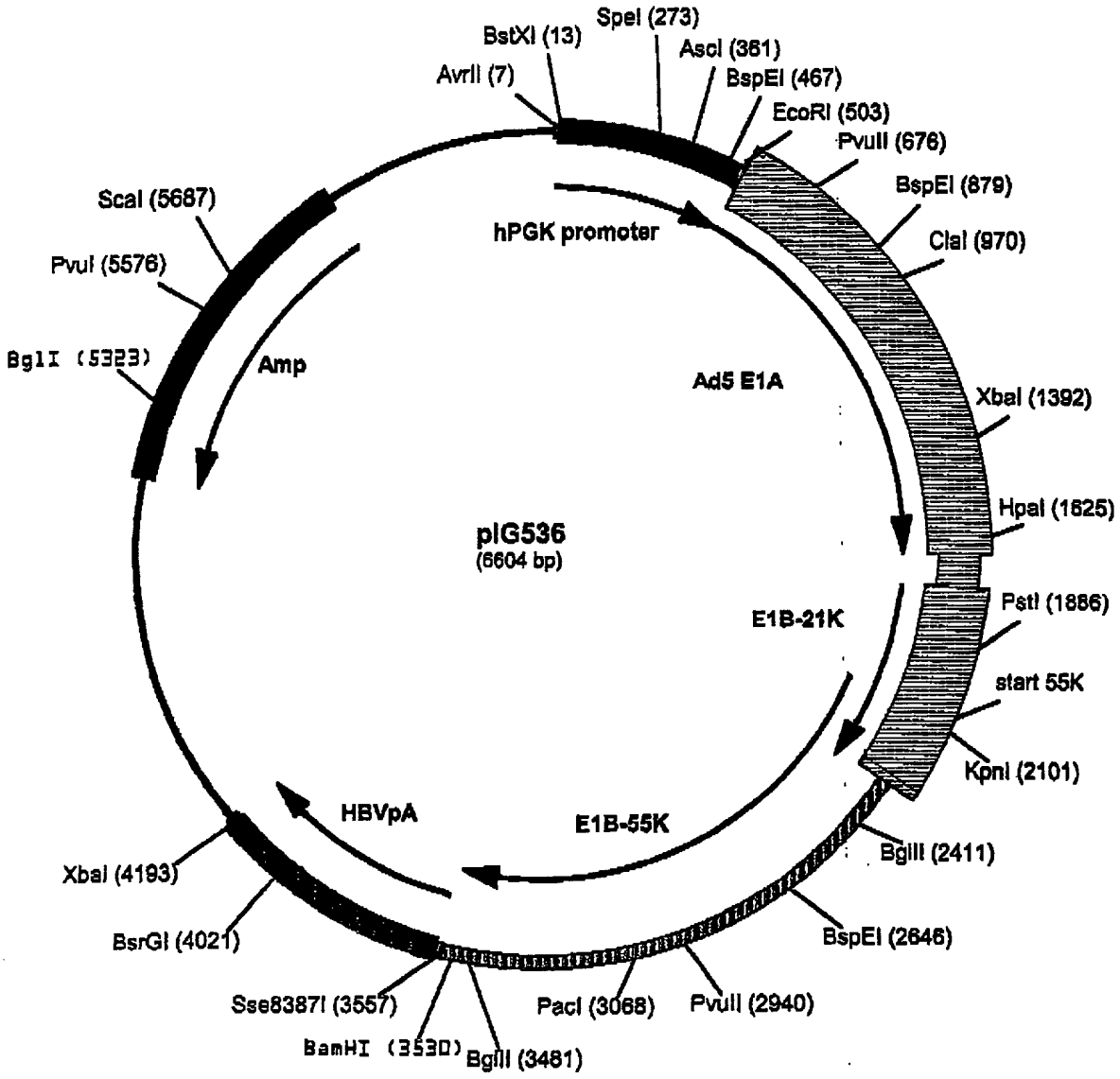

BstXI (13)
SpeI (273)
AscI (361)
AvrII (7)
BspEI (467)
EcoRI (503)
PvuII (676)
BspEI (879)
ScaI (5687)
hPGK promoter
ClaI (970)
PvuI (5576)
Amp
Ad5 E1A
BglI (5323)
XbaI (1392)
pIG536
(6604 bp)
HpaI (1625)
PstI (1886)
E1B-21K
start 55K
KpnI (2101)
HBVpA
E1B-55K
BglII (2411)
XbaI (4193)
BsrGI (4021)
BspEI (2646)
Sse8387I (3557)
PacI (3068)
PvuII (2940)
BamHI (3530)
BglII (3481)

Figure 35

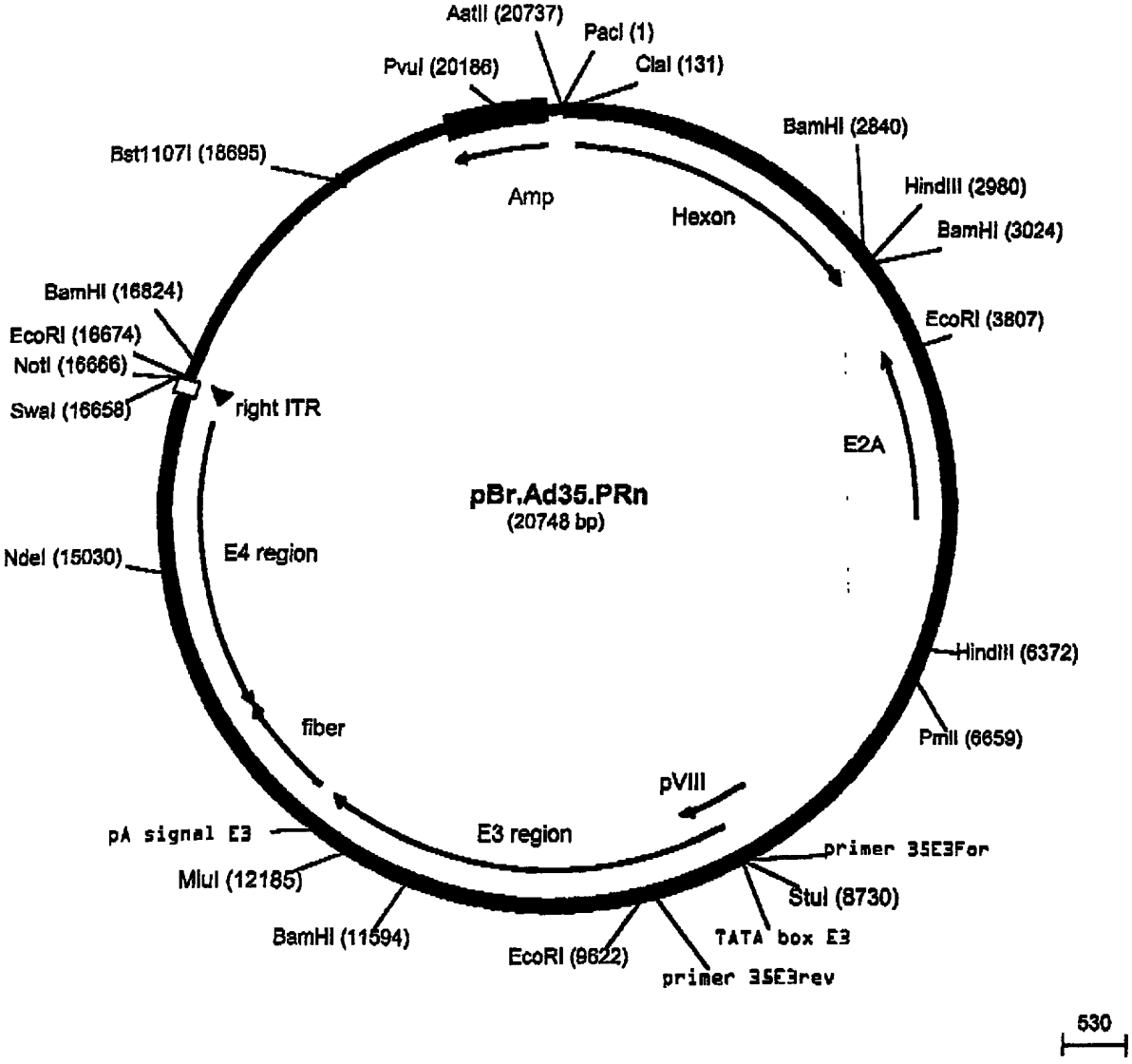

AatII (20737)
PacI (1)
ClaI (131)
PvuI (20186)
BamHI (2840)
Bst1107I (18695)
HindIII (2980)
Amp
Hexon
BamHI (3024)
BamHI (16824)
EcoRI (3807)
EcoRI (16674)
NotI (16666)
SwaI (16658)
right ITR
E2A
pBr.Ad35.PRn
(20748 bp)
NdeI (15030)
E4 region
HindIII (6372)
PmlI (6659)
fiber
pVIII
pA signal E3
E3 region
primer 35E3For
MluI (12185)
StuI (8730)
BamHI (11594)
TATA box E3
EcoRI (9622)
primer 35E3rev
530

Figure 36

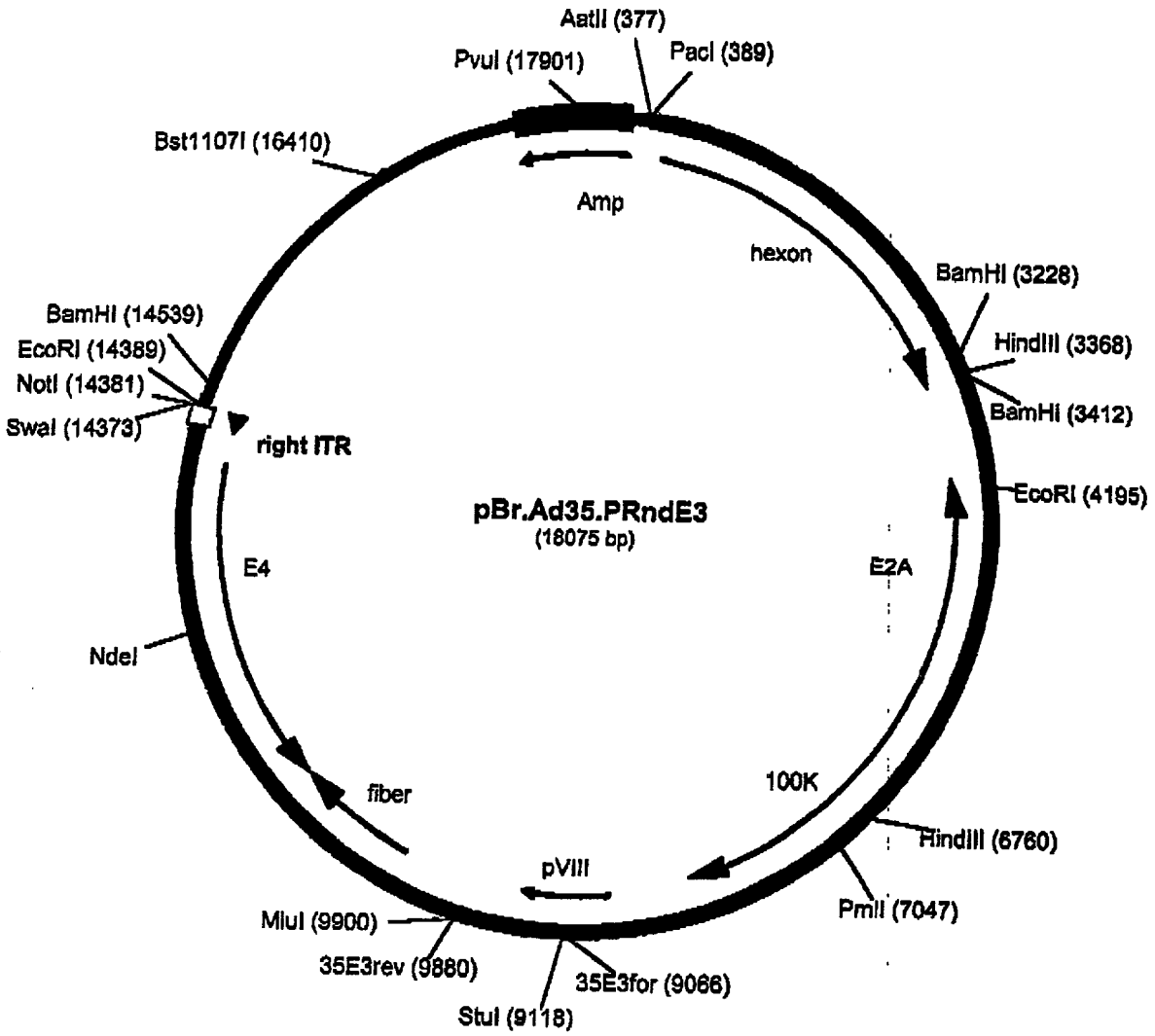

AatII (377)
PacI (389)
PvuI (17901)
Bst1107I (16410)
Amp
hexon
BamHI (3228)
HindIII (3368)
BamHI (3412)
EcoRI (4195)
BamHI (14539)
EcoRI (14389)
NotI (14381)
SwaI (14373)
right ITR
pBr.Ad35.PRndE3
(18075 bp)
E4
E2A
NdeI
fiber
100K
HindIII (6760)
pVIII
PmlI (7047)
MluI (9900)
35E3rev (9880)
35E3for (9066)
StuI (9118)
462

Figure 37

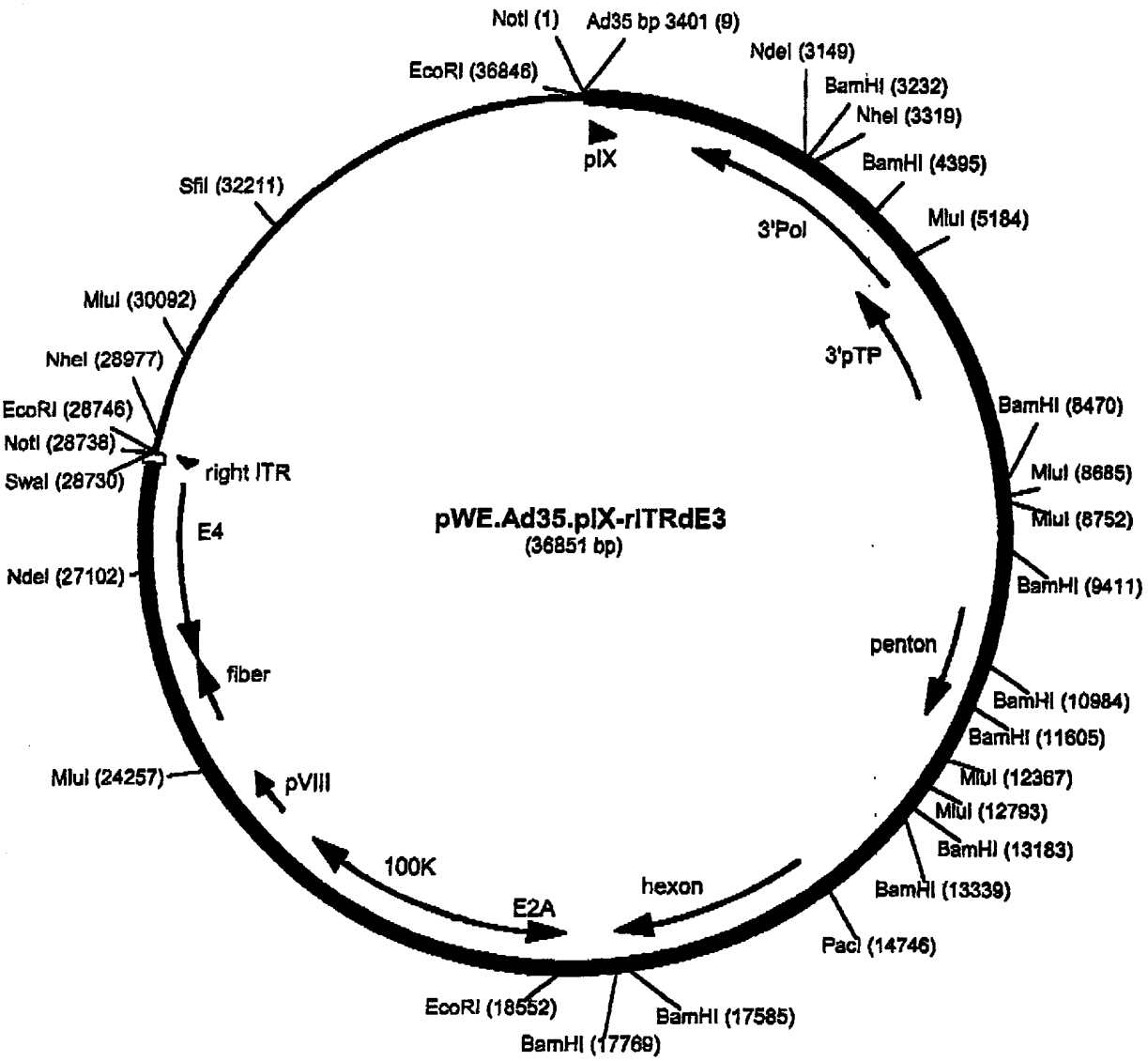

NotI (1)
Ad35 bp 3401 (9)
EcoRI (36846)
NdeI (3149)
BamHI (3232)
NheI (3319)
pIX
BamHI (4395)
MluI (5184)
3'Pol
SfiI (32211)
MluI (30092)
3'pTP
NheI (28977)
EcoRI (28746)
NotI (28738)
SwaI (28730)
right ITR
BamHI (8470)
MluI (8685)
MluI (8752)
BamHI (9411)
pWE.Ad35.pIX-rITRdE3
(36851 bp)
E4
NdeI (27102)
penton
fiber
BamHI (10984)
BamHI (11605)
MluI (12367)
MluI (12793)
MluI (24257)
pVIII
BamHI (13183)
BamHI (13339)
100K
hexon
E2A
PacI (14746)
EcoRI (18552)
BamHI (17585)
BamHI (17769)

Figure 38 A: Alignment of E1B-21K sequences from pCC536s, wtAd35 and wtAd5

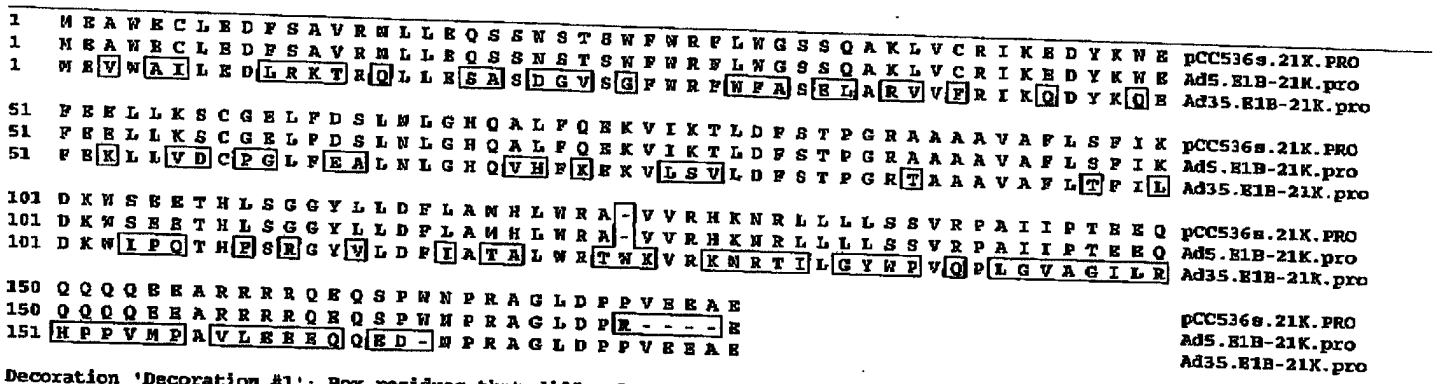
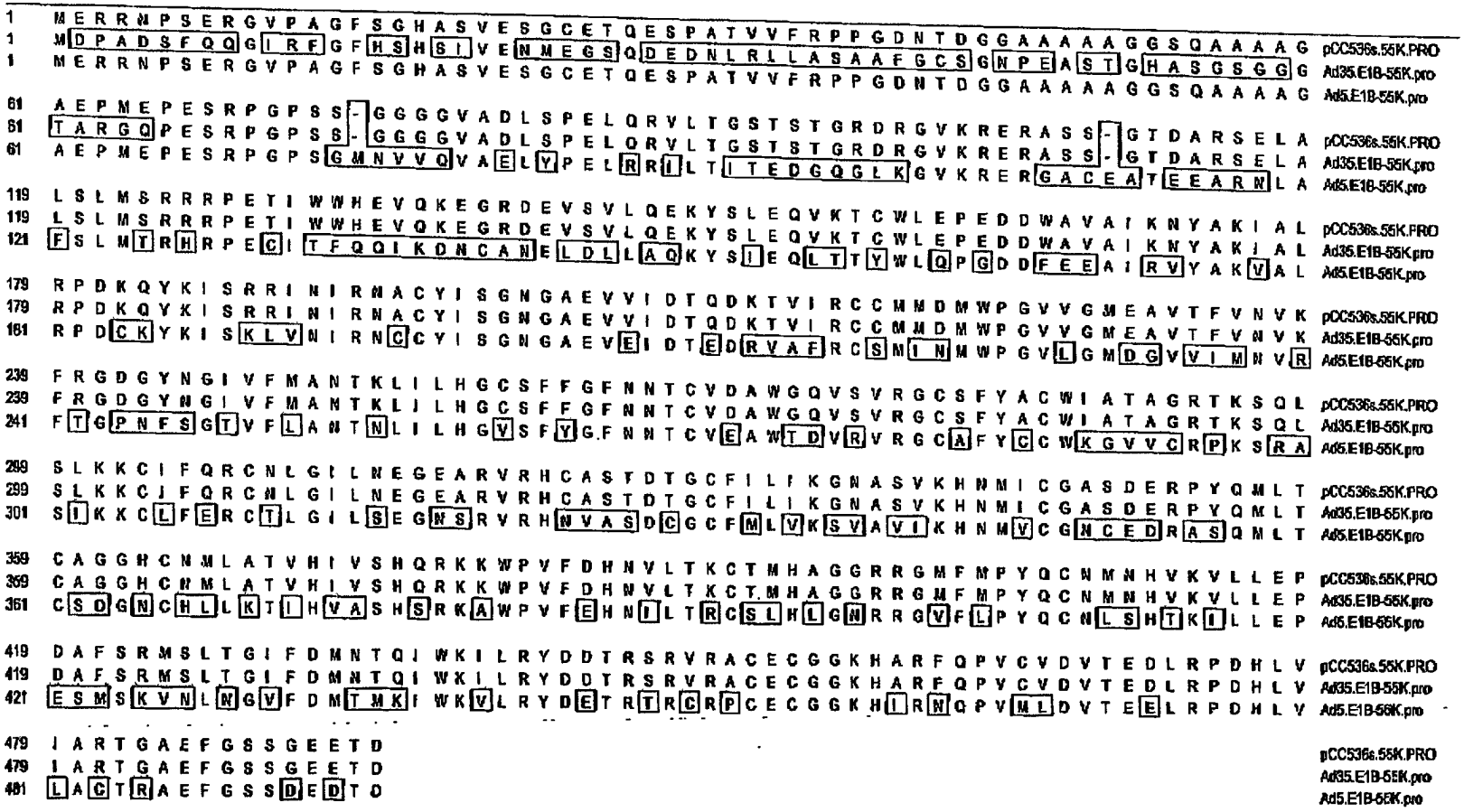


Figure 38 B: Alignment of E1B-55K sequences from pCC536s, wtAd35 and wtAd5



Decoration 'Decoration #1': Box residues that differ from pCC536s.55K.PRO.